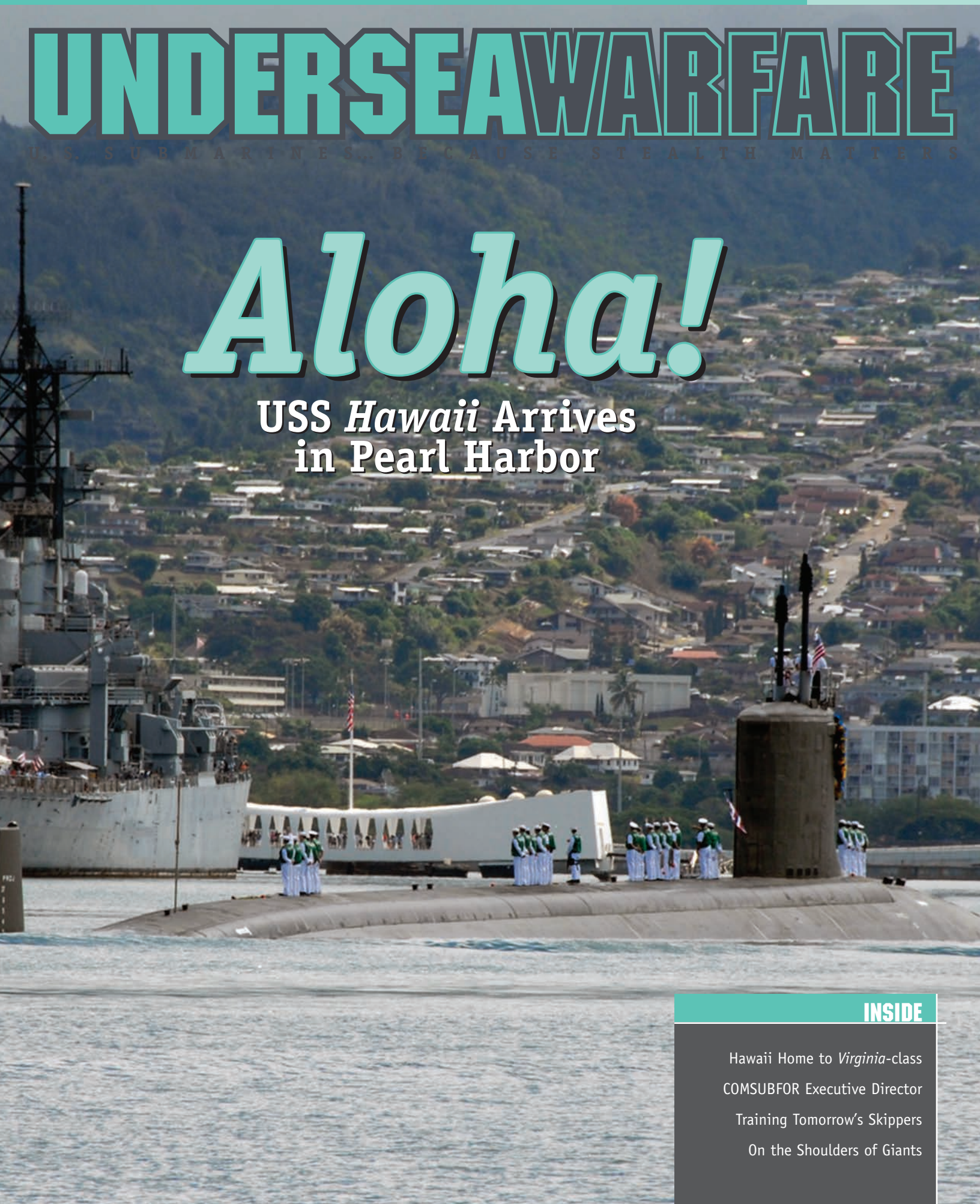
UNDERSEA WARFARE

U.S. SUBMARINES... BECAUSE STEALTH MATTERS



Aloha!

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COMSUBFOR Executive Director

Training Tomorrow's Skippers

On the Shoulders of Giants

Fall 2009
Issue No. 41

UNDERSEAWARFARE

THE OFFICIAL MAGAZINE OF THE U.S. SUBMARINE FORCE

Aloha!

USS *Hawaii* Arrives in Pearl Harbor

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On The Cover

The *Virginia*-class attack submarine USS *Hawaii* (SSN 776) passes the USS *Arizona* memorial while transiting Pearl Harbor, Hawaii.

Photo by Sgt. Kevin Link

"Our ability to attract and retain the best people in the submarine service has always been essential to maintaining our position as the world's finest Submarine Force."

VADM Jay Donnelly, USN, Commander, Submarine Force

Our ability to attract and retain the best people in the submarine service has always been essential to maintaining our position as the world's finest Submarine Force. We continually review personnel recruitment and assignment policies to expand and diversify available talent to keep our readiness at the highest level.

Recently, the Secretary of the Navy and Chief of Naval Operations indicated that it is time to change the policy prohibiting women from being assigned to submarines. After the Secretary of Defense notifies Congress of the assignment policy change, we will engage with Congress and then move out on this initiative, as it will become increasingly important to expand the talent pool we draw from in the future.

In 2007, women comprised 57% of enrollees at degree-granting institutions, and they have earned about half of all science and engineering bachelor's degrees since 2000. They represent a rich resource of talent for Submarine Force officer accession.

This initiative represents a major change in the Submarine Force. As with any change, the key to our success will be strong and effective leadership throughout the chain of command. I am committed to integrating women into our Force in a way that respects the rights and privacy of all crew members and makes our Submarine Force even better than we are today.

In this issue of Undersea Warfare, we feature one of the elite athletes in the submarine community (if not the world), LCDR Don Cross, the Strategic Weapons Officer for Commander, Submarine Squadron 20, in Kings Bay, Ga. He is among six U.S. Navy athletes chosen to compete in one of the most prestigious world championship triathlons, the 31st annual Ford Ironman World Championship triathlon, in Kailua-Kona, Hawaii. The Iron Man competition consists of a 2.4-mile swim through rough ocean currents, a 112-mile bike race, and 26.2 miles of marathon running over volcanic rock-covered terrain in tropical island heat. Don has been competing in triathlons for many years, and his participation helps showcase the elite nature of Navy athletes to the broad audience of athletes and spectators for these events.

This month's issue also features a number of informative articles, including an interview with the Submarine Force Executive Director, Mr. F. Scott Dilisio. Scott is in his second year in this position and has provided tremendous value to the Submarine Force. I certainly appreciate his counsel and assistance in addressing the challenges and opportunities ahead.

Operationally, we remain busy, and our submarines are engaged around the world. As I write this, we have 13 SSNs deployed and five SSBNs on patrol. These crews, together with those on our deployed SSGNs, make up nearly 3,000 submariners who are at sea standing the watch for our nation.

As the holidays approach, it is important to remember our committed professionals who are away from friends and family. I am tremendously proud of the accomplishments of the Submarine Force and look forward to an exciting and challenging year ahead.

"Our acquisition programs are setting the standard for excellence across the Navy, our platforms are exceeding the Combatant Commanders' call for mission performance, and our force of Sailors and civilians are finding new and innovative ways to meet the demands of an ever changing world."

RADM Cecil Haney, USN, Director, Submarine Warfare

Greetings from our Nation's Capital! It is truly an exciting time to be a submariner. Our acquisition programs are setting the standard for excellence across the Navy, our platforms are exceeding the Combatant Commanders' call for mission performance, and our force of Sailors and civilians are finding new and innovative ways to meet the demands of an ever changing world. These are truly exciting times in the Submarine Force!

Inside the beltway, Congress is still working on finishing the first defense budget for the new administration. Fiscal year 2010 defense appropriations legislation started on 1 October under a continuing resolution, a short-term measure that extends funding levels from the previous year. The continuing resolution will expire on 18 December. Meanwhile, fiscal year 2010 defense authorization legislation concluded when the President signed the National Defense Authorization Act (NDAA) into law on 28 October. This legislation contained some significant authorizations: a 3.4-percent pay raise, 0.5 percent above the original budget request; full funding for the *Virginia*-class, keeping the program on track to start two-per-year production in 2011; and full funding to support the first year of research and development for the *Ohio* replacement. I am very encouraged by how submarine programs fared in the NDAA and am hopeful of similar results as appropriations proceedings conclude.

The arrival of USS *Hawaii* (SSN-776) in Pearl Harbor on 23 July opened a whole new chapter in the history of our business. Our Submarine Force's platform of the future is now in the theater with many of our future projected challenges. I am confident the *Virginia*-class is up to the test, as demonstrated by the operational performance of the commissioned boats. USS *Virginia* (SSN-774) is now deployed from Groton on the class's first full six-month deployment. USS *Hawaii* will follow suit next year on the *Virginia*-class's first full western Pacific deployment. USS *Texas* (SSN-775) recently completed the Arctic Follow-on Test and Evaluation events for the *Virginia*-class and will soon join *Hawaii* in the homeport of Pearl Harbor. This issue celebrates *Hawaii*'s arrival in Pearl Harbor and also features an interview with RADM Willy Hilarides, Program Executive Officer for Submarines, updating the *Virginia*-class program's progress.

In his interview, RADM Hilarides also gives a quick update on our efforts to start the program to build the *Ohio*-class SSBN replacement. Commonly referred to as the sea-based strategic deterrent (SBSD), the program recently completed work on the Analysis of Alternatives (AoA). The AoA report findings will publish in the near future and provide rudder orders for our future efforts. Work now continues on cost estimating, technology planning, systems engineering, and key performance parameter (KPP) development to support the next major milestone next summer. In the meantime, Common Missile Compartment technical studies, "rest of ship" integration studies, and missile tube prototyping are ongoing.

We have a great team of both uniformed and civilian personnel performing critical work on the *Ohio*-class Replacement Program; they are dedicated people doing important, rewarding work. One of the most important members of our team, LT Adam Zaker, brings just a junior officer tour of experience with him from the good ship USS *City of Corpus Christi* (SSN-705). However, his energy and talent — mixed with the plethora of experience you would expect to find in D.C. — have proven the right formula for early success in the effort. On the inside back cover of this issue, Adam shares his experiences working on the *Ohio* Replacement Program, studying for an advanced degree, training for a marathon, and enjoying the tremendous opportunities available for D.C. area junior officers enjoying shore duty (Congratulations to Adam and the other N87 team members who finished the Marine Corps Marathon: CDR Todd Weeks, LT Joe Petrucelli, LT Jamie Cook, and LT Mike Horr.). I would recommend an OPNAV or D.C. shore tour to any junior officer seeking a challenging and rewarding experience.

For our N87 staff, I bid farewell to CAPT Andy Hale, CAPT Colin Chaffee, CAPT Fuzz Harrison, CDR Dave Soldow, CDR Neil Smith, and LT Brad Bozin. Good luck to CAPT Jeff Currer, LT Mike Horr, Mr. Bob Cepek, Mr. Angus Regier, Mr. Ken Minogue, and Mr. Tim Kline as they transfer to work for the new Deputy Chief of Naval Operations for Information Dominance.

I welcome aboard CDR Axel Spenz, CDR Marc Hone, CDR Warren Fridley, LCDR Kyle Lacy, LCDR Matthew Phelps, LT John Gonser, LT Pablo Viera, and Mr. Tom Nutter.

Finally, I want to thank all those in and out of uniform who support the Submarine Warfare Division. I know I can continue to count on your support.

UNDERSEAWARFARE
U.S. SUBMARINES... BECAUSE STEALTH MATTERS

The Official Magazine of the U.S. Submarine Force

Charter

UNDERSEA WARFARE is the professional magazine of the undersea warfare community. Its purpose is to educate its readers on undersea warfare missions and programs, with a particular focus on U.S. submarines. This journal will also draw upon the Submarine Force's rich historical legacy to instill a sense of pride and professionalism among community members and to enhance reader awareness of the increasing relevance of undersea warfare for our nation's defense.

The opinions and assertions herein are the personal views of the authors and do not necessarily reflect the official views of the U.S. Government, the Department of Defense, or the Department of the Navy.

Contributions and Feedback Welcome

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CHINFO Merit Award Winner

Silver Inkwell Award Winner

In keeping with UNDERSEA WARFARE Magazine's charter as the Official Magazine of the U.S. Submarine Force, we welcome letters to the editor, questions relating to articles that have appeared in previous issues, and insights and "lessons learned" from the fleet.

UNDERSEA WARFARE Magazine reserves the right to edit submissions for length, clarity, and accuracy. All submissions become the property of UNDERSEA WARFARE Magazine and may be published in all media. Please include pertinent contact information with submissions.

Send submissions to:

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or **underseawarfare@navy.mil**

dear **EDITOR,**

I am trying to assist a World War II Army Air Corps pilot who was shot down in the Pacific Theater and rescued from a Japanese held island by a U.S. Navy submarine (including a shore party). Because of his injuries, he does not remember the date of the event, or what happened to his crew — for whom he feels responsible. I know this is a long shot, but since there are no records of downed aircraft that match the time period he recalls, I thought it might be possible to pinpoint the date and time of the event by accessing the records of the submarine fleet. Any assistance you can give to steer me in the direction of these records would be greatly appreciated. (I don't know if they are filed by name of downed airman, location, sub, etc.)

Thank you for your time,
Gerry Perrett

Mr. Perrett,

A good place to start would be at the website of the Naval History and Heritage Command, http://www.history.navy.mil. The information you seek might be found in the operational Archive Branch, Third Floor of Building 57, Washington Navy Yard. Its hours are Monday, Tuesday and Thursday, 0900-1600; appointments are requested due to limited research space, and the phone number is (202) 433-3224.

Another possibility is the National Archives — they maintain war patrol reports for the vast majority of WWII-era boats. If your friend can provide a window of time when he was shot down, some basic Internet research might be able to turn up what boats were on patrol or performing lifeguard duty. Then, going to the National Archives, you could pull the war patrol reports for those boats and scan them for the information matching what you know. The National Archives' website is http://www.archives.gov. Good Luck!

from the **EDITOR,**

In the last issue of UNDERSEA WARFARE, a photo on page 29 of Vice Adm. John Donnelly was incorrectly identified. The caption described his recent trip to Peru, while the photograph was taken on his trip to neighboring Chile. UNDERSEA WARFARE regrets the error.

The caption should have read, "Talcahuano, Chile (April 09) — During a recent trip to Chile, Vice Adm. John Donnelly, Commander Submarine Force, was greeted by Comodoro Piero Fagandini, Commander Submarine Force-Chile, as they toured the Chilean submarine base in Talcahuano."

sailors**FIRST**

Photo by Petty Officer 1st Class Steven Myers

Ens. Jason Revitzer, Supply Officer of the *Virginia*-class attack submarine USS *New Hampshire* (SSN-778), kisses his wife during the return of *New Hampshire* from its maiden deployment to the U.S. European Command area of responsibility. During the deployment, *New Hampshire* crewmembers visited Spain, France and Norway, where they participated in the Norwegian Submarine Centennial celebration.

by Petty Officer 3rd Class Luciano Marano

Submarine Excitement Heads West

"Virginia-*class submarines like* Hawaii... *will directly support my ability to meet and defeat threats to maritime security in the Pacific.*"

Rear Adm. Douglas McAneny,
Commander, Submarine Force
U.S. Pacific Fleet

The role of Hawaii and the Pacific in the Submarine Force is rapidly enlarging. Recognizing the importance of the Asia-Pacific region and the proliferation of advanced submarines in the Pacific, the 2006 Quadrennial Defense Review mandated that 60 percent of the U.S. Navy's submarines be homeported in the area by the end of 2010.

"The theater area itself mandates greater submarine presence because there's so much work to be done," said Commander, Submarine Force U.S. Pacific Fleet (COMSUBPAC) Force Master Chief Petty Officer (FORCM) David Lynch. "Our focus is the workload."

Rear Adm. Douglas McAneny, COMSUBPAC, officially announced in December 2008 that USS *Hawaii* (SSN-776) would become the first *Virginia*-class submarine to be homeported at Naval Station Pearl Harbor in the summer of 2009, followed shortly by USS *Texas* (SSN-775) in the fall.

"These two *Virginia*-class submarines bring to bear technologically advanced, multi-mission systems that will enable our Submarine Force to dominate both the littorals and deep Pacific and Indian Oceans for many years to come," said McAneny.

Initially announced in late 1998, the Navy's newest class of submarine is already proving its worth with reduced construction costs, lower manning requirements, and improved capabilities.

"*Virginia*-class submarines like *Hawaii* are designed to excel in the littorals, while maintaining the ability to conduct open-ocean operations, which will directly support my ability to meet and defeat threats to maritime security in the Pacific," said McAneny.

However, it is not just the platforms that bring innovations to the force. "Constant technological advancement helps to keep the U.S. Pacific Fleet Submarine Force the dominant presence in the region," said McAneny in a recent podcast. "We continually refine our equipment and procedures to ensure our Sailors are the best equipped and trained undersea warriors in the world."

In addition to the *Virginia*-class *Hawaii* and *Texas* changes of homeport, the *Los Angeles*-class submarine USS *Jacksonville* (SSN-699) has transferred from Norfolk, Va., to Pearl Harbor, and USS *Albuquerque* (SSN-706) is transferring from Groton, Conn., to San Diego, Calif., this summer. By the end of 2009, 31 of the U.S. Navy's 53 attack submarines will be homeported in the Pacific, with 18 of those 31 homeported in Pearl Harbor.

A greater force presence will mean more billeting for submariners, support rates, shipyard employees, and DoD (Department of Defense) civilians to help keep them all "fit to fight."

"More support is required," said Lynch. "Our greatest challenge is implementing the *Virginia*-class arrival plan and making the necessary changes to support them logistically, because it is a substantial difference [from previous classes]."

Photo by Petty Officer 2nd Class Meagan Klein

(Left) The *Virginia*-class submarine USS *Hawaii* (SSN-776) passes Diamond Head crater while transiting to Pearl Harbor, Hawaii, the submarine's new home port.

(Below) Sailors disembark the *Los Angeles*-class attack submarine USS *Albuquerque* (SSN-706) as they arrive in their new homeport at San Diego, Calif.

(Bottom) The *Los Angeles*-class attack submarine USS *Jacksonville* (SSN-699) is guided away from Pier 3 at Naval Station Norfolk for the final time. *Jacksonville* changed homeports from Norfolk to Pearl Harbor, Hawaii.

Photo by Petty Officer 2nd Class David Quillen

"The Shipyard is ready and willing to answer the call," said Cmdr. Leonard Laforteza, *Virginia*-class Program Manager at Pearl Harbor Naval Shipyard.

"We are progressing to qualify a core group of personnel from technical codes, support codes, and production shops who will be ready to perform intermediate-level work as soon as *Hawaii* gets here," Laforteza said in an interview in the Pearl Harbor Naval Shipyard publication, *The Shipyard Log*.

This is clearly an exciting time to be in the Pacific Submarine Force, made even more so by the arrival of the new *Virginia*-class submarines.

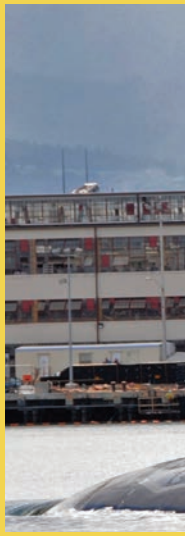
Petty Officer 3rd Class Marano is a Public Affairs Mass Communications Specialist for Commander, Submarine Force, Pacific (COMSUBPAC).

Photo by Chief Petty Officer Dean Lohmeyer

by Commander Submarine Force, U.S. Pacific Fleet Public Affairs Office

Photo by Petty Officer 2nd Class Mark Logico

Photo by Petty Officer 1st Class Michael Hight



Pearl Harbor

USS *Hawaii* (SSN-776), the first *Virginia*-class submarine to be home-ported in the Pacific, arrived July 23, 2009, to a warm, local-style welcome at the submarine piers of Naval Station Pearl Harbor that reflected Hawaii's diverse cultural heritage. The state's namesake submarine made Hawaii its home during the 50th anniversary of statehood commemoration activities.

More than two hundred people took advantage of the opportunity to view *Hawaii* from the Ford Island seaplane ramp as the submarine sailed into Pearl Harbor, while many more lined the banks of the Naval Station near Hospital Point and along Hickam Air Force Base. The guest of honor was the ship's sponsor, Hawaii Gov. Linda Lingle. She briefly boarded *Hawaii* via a small boat prior to the ceremony, greeted the crew, and raised the Hawaii state flag aboard the namesake submarine.

At the Sierra 9 pier, next to Submarine Force Pacific headquarters, family members of the crew and invited guests enjoyed the ceremony preceding the arrival. The

Photo by Petty Officer 2nd Class Robert Stirrup


Photo by Petty Officer 1st Class Michael Hight


Photo by Petty Officer 1st Class Michael Hight

(Opposite) The girls of Halau Hula Olana (School of Living Hula) perform a traditional hula dance for the arrival of the *Virginia*-class attack submarine USS *Hawaii* (SSN-776).

(Top row, left to right) Kahuna Pule Ganotise performs a traditional Hawaiian blessing during an arrival ceremony for *Hawaii* July 23, 2009; Sailors line topside aboard *Hawaii* as she pulls into her new homeport at Naval Station Pearl Harbor.

(Bottom row, left to right) Members of the Pa Ku'i a Lua perform a traditional Hawaiian Haka during the arrival ceremony for *Hawaii*; Rear Adm. Douglas McAneny, Commander, Submarine Force U.S. Pacific Fleet with Hawaii Governor Linda Lingle, speak prior to the arrival ceremony for *Hawaii*.

Welcomes USS *Hawaii* (SSN-776) Home

ceremony featured a Hawaii Air National Guard flyover and participation by the U.S. Pacific Fleet Band and the Kamehameha Alumni Glee Club. Halau Hula Olana Ai performed a hula. Kahuna Pule Ganotise provided a traditional Hawaiian blessing, and Pa Ku'i a Lua performed a haka. Once the brow was across, the crew debarked into the arms of their loved ones, who had not seen the crew since *Hawaii*'s departure from Groton, Conn., in May.

The Navy League of the United States Honolulu Council hosted a post-ceremony reception for the families and crew of *Hawaii* at historic Lockwood Hall on the Naval Station. Danny Kaleikini sang the National Anthem and Hawai'i Pono'i. Gov. Lingle, Rear Adm. Douglas McAneny, Commander Submarine Force, U.S. Pacific Fleet, and Cmdr. Ed Herrington, *Hawaii*'s Commanding Officer, addressed the crew, family, and guests.

"Today is a very important beginning for the people of Hawaii, the crew of the fine submarine *Hawaii*, the Submarine Force, and the U.S. Pacific Fleet," said Rear Adm. McAneny. "We recognize that without the support of the great people of the state of Hawaii, we cannot succeed day in and day out with the mission our country asks us to do."

"Officially today, I welcome you and your families as members of our ohana," said Gov. Lingle. "I am honored to serve as this ship's sponsor, and I have been with you every step of your journey home. Today you start a new tradition, while building a more secure future for our country."

"I know I speak for the officers and crew of *Hawaii*, when I say, 'Wow!'" said Cmdr. Herrington. "I felt a little like a rock star today. All the people on the shoreline cheering you along, the Governor coming out on the boat, and the fly-over; it was fantastic."

Measuring 377 feet long, weighing 7,800 tons when submerged, and with a complement of more than 130 crewmembers, *Hawaii* is one of the Navy's newest and most technologically sophisticated submarines. The state-of-the-art submarine is capable of supporting a multitude of missions, including anti-submarine warfare; anti-surface ship warfare; strike; naval special warfare involving special operations forces; intelligence, surveillance, and reconnaissance; irregular warfare; and mine warfare.

Commissioned May 5, 2007, *Hawaii* was the third *Virginia*-class attack submarine constructed and the first submarine to be named after the 50th state. During her maiden deployment, *Hawaii* became only the second naval submarine in history to receive the U.S. Coast Guard Meritorious Unit Citation for her efforts in support of Joint Interagency Task Force South counter-drug operations. Her crew is excited to represent its namesake state and looks forward to building upon multinational partnerships in the Asia-Pacific region in future Western Pacific deployments.

by Molly Little

Question and Answer

Photo by Molly Little

Rear Admiral William Hilarides, Program Executive Officer Submarines

Rear Adm. William Hilarides serves as the sixth Program Executive Officer for Submarines (PEO SUBS). In this capacity, he is responsible for all new-construction submarines as well as the acquisition and life cycle maintenance of submarine weapons, countermeasures, sensors, combat control, and imaging systems.

Raised in Chicago, Rear Adm. Hilarides attended the U.S. Naval Academy, graduating in 1981 with a Bachelor of Science in Physics. He has served in a number of billets aboard submarines, including USS *Pargo* (SSN-650), USS *Gurnard* (SSN-662), and USS *Maryland* (SSBN-738). His at-sea services culminated with command of USS *Key West* (SSN-722) from May 1998 to November 2000. He also served in several shore billets, including flag lieutenant to Commander, Submarine Force, U.S. Atlantic Fleet; personnel assignment officer at the Bureau of Naval Personnel; action officer on the Joint Staff in the Force Structure, Requirements, and Assessment Directorate; and acquisition branch head on the staff of the Chief of Naval Operations.

In 2002, Read Adm. Hilarides became an acquisition professional and subsequently served as Director, Advanced Submarine Research and Development, and as the conversion manager and then program manager of the SSGN Program.

Rear Adm. Hilarides recently discussed the current and future states of submarine acquisition with UNDERSEA WARFARE Magazine.

As the *Virginia* class transitions from an acquisition program into an operational program, can you touch on some recent successes and current and future initiatives?

The *Virginia* class's transition to an operational program is a huge win for the Fleet. In fact, USS *New Hampshire* (SSN-778) recently completed the class's third pre-PSA [post shakedown availability] deployment. PSA is the maintenance availability we do right after a submarine is built to fix any issues we identified in the boat's shakedown trials. We've actually deployed three of the five commissioned *Virginia*s before PSA — which is unprecedented for the Submarine Force, and pretty much for shipbuilding. Also, USS *Virginia* (SSN-774), the first of the class, is now preparing for her first regular deployment this fall. That's huge. She is done with all of her construction, testing, and modernization and is ready to go do what we designed her to do — which is the business of submarine deployments and missions.

Additionally, USS *Hawaii* (SSN-776) transitioned homeports from Groton, Conn., to Pearl Harbor, Hawaii, this summer as part of our force realignment, and USS *Texas* (SSN-775) also transitioned to Pearl Harbor in the Fall. USS *North Carolina* (SSN-777) is undergoing PSA now. That's the operational end of the *Virginia* class and pretty much touches all five boats that are done so far. The sixth boat, USS *New Mexico* (SSN-778), will be delivered to the Navy by the end of the year, so it's all very good news.

We've had several programmatic successes over the course of the past year or so. First and foremost is the signing of the

Photo by Petty Officer 1st Class Steven Myers

USS *Texas* (SSN-775) exits the Thames River as it departs Naval Submarine Base New London en route to its new home port in Pearl Harbor, Hawaii.

multi-year procurement contract, or Block III, which took place in December 2008. It is a tremendous step for the Submarine Force and an important accomplishment for the whole organization here in Team Submarine. That contract buys eight submarines for the five fiscal years [FY] from 2009 through 2013 and begins our procurement of two per year in 2011.

Successful execution of the high-profile cost-reduction program was imperative to the Block III contract; you may recall the "2 for 4 in 12" [two subs for $4 billion in FY2012] slogan that we attached to the program. We budgeted for and subsequently achieved that cost-reduction goal without removing any of the class's capabilities. It's important to note that the $2 billion per sub in the "2 for 4 in 12" is in 2005 dollars. When you convert the amount to real dollars, the dollars in FY12, it's actually $2.59 billion. Now, a lot of people forget that, and they say, 'Wait a second, a $2-billion submarine actually costs $2.59 billion?' No, it's exactly as we said. There was always that FY05 to FY12 jump, and the $2 billion to $2.59 billion reflects the facts of inflation during that period.

Getting support for that contract required tremendous effort at getting the construction cost down. The cost-reduction effort really highlights the close relationship between our shipbuilding partners General Dynamics Electric Boat (GDEB) and Northrop Grumman Shipbuilding-Newport News (NGSB), the government, and all the performers on the contract—the people who make the combat systems, the sonar, etc. We tasked everybody to go out and find ways to reduce costs to make that acquisition goal happen. We invested in our shipbuilders and the other companies that provide systems and parts for *Virginia*, and everybody came through; everybody did their part. The team pulled together to accomplish a spectacular feat by achieving significant cost reduction on a shipbuilding program that was already in serial production.

Figuring out what that team can do in the future is something we've challenged ourselves with, so we've begun a program to reduce the total ownership cost of the *Virginia* class. The total ownership cost really refers to not just the acquisition cost, or what we pay upfront, but what we pay through the whole life of the platform. The focus to date has been predominantly on the acquisition cost, with an eye towards the cost through life, but now we have an opportunity with the team focused on the design of the ship for the next block of submarines that will go under contract in about four years. They are asking, "What could we do to that design to make it the most affordable platform for the whole 33 years that it will be in service?" They're looking at all parts of the ship and its life cycle to figure out how we can make it the most affordable ship for the far future of the Navy. You might ask the question, "Why now? Aren't most of the *Virginia* class built?" Well, there are 18 ships in Blocks I through III, and the class is sched-

uled for a total of 30 submarines, so that investment is a good one for the future.

A key part of any large acquisition program like the *Virginia* class is a thorough test program overseen by the Director of Operational Test and Evaluation [DOT&E] at the Office of the Secretary of Defense. The *Virginia* test program is the most thorough we've ever done for a submarine. Operational Evaluation (OPEVAL), a critical part of the test program, evaluated *Virginia*'s performance in her seven mission areas of anti-submarine warfare [ASW]; anti-surface warfare [ASuW]; strike; irregular warfare [IW]; special operations forces [SOF]; intelligence, surveillance, and reconnaissance [ISR]; and mine warfare [MIW]. We tested everything from strike capabilities, by launching TOMAHAWK cruise missiles, to SOF, by utilizing the lock-in/lock-out chambers aboard *Virginia*. We have completed the initial operational test and evaluation, performed well, and have been recommended for full fielding in the Fleet. For the most part, that marks the end of the acquisition milestones in acquiring a platform. We set a requirement in the mid-1990s, created a construction program, and worked our way through all of the issues associated with construction. Now, as *Virginia* prepares to go on her first deployment, she has earned her grade from the operational testers. DOT&E said she's good to go, operationally suitable, and effective for all her mission areas — which is the highest mark a program can receive. Everybody that's worked on this program for the last 20 years can feel a great deal of pride out of seeing their ship do well in that sort of final exam.

Rear Adm. Hilarides addresses the audience during his Sept. 1, 2009 promotion to Rear Admiral Upper Half.

The Navy is currently conducting an Analysis of Alternatives (AoA) for the *Ohio*-class SSBN [ballistic mission submarine] successor; can you discuss the *Ohio* Replacement Program as it stands now and the way ahead to get the first of the class delivered in 2025?

Probably the most frequent and important question I get asked about *Ohio*-class replacement is — why now? There are three driving factors that make now the right time. First and foremost is that it takes about 20 years to go through the concept formulation, design, and construction process. So if I need a ship in 20 years to maintain the required force levels, then now is the time to start that long process to get a ship into production. The second is that the design base at General Dynamics Electric Boat and Northrop Grumman-Newport News, which is an industrial base I'm charged with trying to sustain, is coming off the *Virginia*-class cost-reduction effort. It is at the point where if we take no action, the design work force would be laid off, and they would go find other work to do, and the nation would lose a critical asset. But by starting in 2010, we sustain that industrial base out into the far future. The nation needs that. The third reason is that we have a long-standing, 40-year collaboration with the United Kingdom [UK] on SSBNs — their *Vanguard* class and our *Ohio* class. If you were to look inside the missile compartments of these separate classes, they look exactly the same, because they're built on the same set of plans and are built for the same missiles. We fully intend to have that cooperation proceed into the far future. However, the UK's need is a little bit ahead of us. The *Vanguard* class begins to decommission a bit before our boats, in 2024, so their missile compartment work needs to start a little sooner than ours. That gets us started on a missile compartment design now in support of their program. If I take all three of those together, that means that now is the sweet spot of when I should start. If I wait longer, I risk being able to replace our boats when they hit the end of their service life, I risk maintaining submarine industrial base capability, I risk reaching a design mature enough to meet construction start targets, and I put the UK program at some amount of risk.

As for where we stand and the way ahead, the *Ohio*-class replacement program is a formal program here at Team Submarine with its own program manager, Capt. David Bishop. Obviously, there have been months of preparation for the Analysis of Alternatives (AoA) and the work in support of the AoA. Now, as the AoA wraps up, the work is defining the requirements for the platform, what that ship needs to look like, etc., as we work the POM [program objective memorandum] 10 budget through Congress. The [FY10] budget contains about $500 million of research and development for the platform and the process of setting the requirements for the platform. That work is really the work of the coming months, as the Navy takes the results of the AoA and turns it into a Capabilities Development Document (CDD) with detailed requirements needed to support the design of the ship. Following approval, the CDD comes back to us on the procurement side to make the program a reality. The requirements process involves multiple stakeholders and will ensure we appropriately balance performance, cost and schedule as we refine the program, resulting in the right platform to address the strategic needs of our Nation.

There are a couple things we do know already about the class. The first of our current SSBNs begins to decommission in 2027, when the USS *Henry M. Jackson* (SSBN-730) comes off the line, so we need a boat on deployment by then in order to have a one-for-one replacement. The ship that deploys to replace *Henry M. Jackson* will be based around the TRIDENT D5 missile, which is the missile we currently have on the *Ohio* class. That gives us an idea about what the submarine is going to look like. The D5 missiles are about 40 feet long and seven feet in diameter, which defines the size of the missile tube required for the *Ohio* replacement. Secondly, our existing infrastructure must also be able to accommodate the new submarine — the dry docks that exist, the weapon-handling facilities, the moorings and pier facilities, the dredged channels, etc. While not technological limits, they are limits that, as taxpayers, we prudently respect. The last thing you want is to have to go dredge new channels or manufacture new dry docks to support a new class. So the timing when that first ship has to be on deployment, the weapons system she will carry, and the infrastructure that supports her really form the basis of the requirement for the platform. We'll then take the rest of the aspects of the class that the Navy wants, such as how stealthy the platform has to be, and incorporate them. This submarine will be in service until about 2080, so trying to anticipate the kind of threats that will be out there in those years is somewhat difficult: what sonar and sensors will be on the ship, how many missile tubes, etc. Those decisions are some of the many decisions out in front of the Navy with this new class, and we really have to get them right. One of the primary causes for programmatic cost increases is design changes, and if we do not lay a solid foundation now, in the program's earliest stages, we could find ourselves paying hefty cost and schedule penalties when we start detailed design work and construction.

There has been a lot of discussion in the press regarding DoD acquisition reforms. What are you doing in this vital area as PEO Submarines?

Current acquisition reform legislation will strengthen the oversight roles of organizations reviewing acquisition programs. In my opinion the legislation is in response to programs that haven't done well. The principle thrust of acquisition reform is to ensure compliance with established rules and requirements, thereby enabling goal attainment. People fall into trouble when they don't estimate correctly, don't fund to the estimates they know are correct, and have trouble executing their contracts to that funding. First and foremost, I think it is about execution, and if there's one thing we pride ourselves on at Team Submarine, it is execution. Viewing the legislation as a success-enabler, I think we are generally moving in the right direction.

The thing I find most exciting about the acquisition reform language is that it really directs us to bring back into the government those functions that belong in the government. For the last 10 or 15 years, we've been downsizing our acquisition workforce, trusting contractors to do much of the work that had always been in the government, and, in some cases, hiring into program offices contractor support to perform core program-office functions. A lot of the language directs us to bring those functions back in the government, move those contract support folks out of the program offices, and bring in government people in their place. In many cases that is really just hiring the contractors into the program offices, and I see that as a real plus for the acquisition workforce. Most of the success in acquisition comes from experience. Experience comes from people in the government that have been doing this for a long time. However, a lot of those people have left, so we have to re-grow the support by bringing in new people and then executing programs that are in place.

The other part of the acquisition reform that is out there is a real focus on competition. We've been going through the entire Team Submarine portfolio over the last few years, identifying every place where we could conduct competitions. As a result, over the last two years, and for the next two years, we will compete pretty much all of the contracts for the front-end systems on the submarines. The imaging system programs have an ongoing competition which, frankly, should be awarded very soon. The same goes for the BYG-1 Combat System. The request for proposal [RFP] for the A-RCI [Acoustic Rapid COTS (Commercial Off-the-Shelf) Insertion] sonar system begins the process of competing the integration role for the sonar systems for all of our submarine classes. On its heels are the competitions for both heavyweight and lightweight torpedoes, which will take place over the next 18 months or so.

On the shipbuilding front, the *Virginia* class is in serial production and on track to increase its build rate in 2011. These submarines are built under a unique teaming arrangement which really requires us to use both GDEB and NGSB to construct our submarines. This tends to look like a two-source contract but in fact operates much more like an alliance contract as you see in some of the European shipbuilding programs. An alliance contract defines the scope that each contractor will work on and then defines how they'll share the profits from executing that scope. We see some of the benefits of two shipbuilders working together towards a common goal in that program.

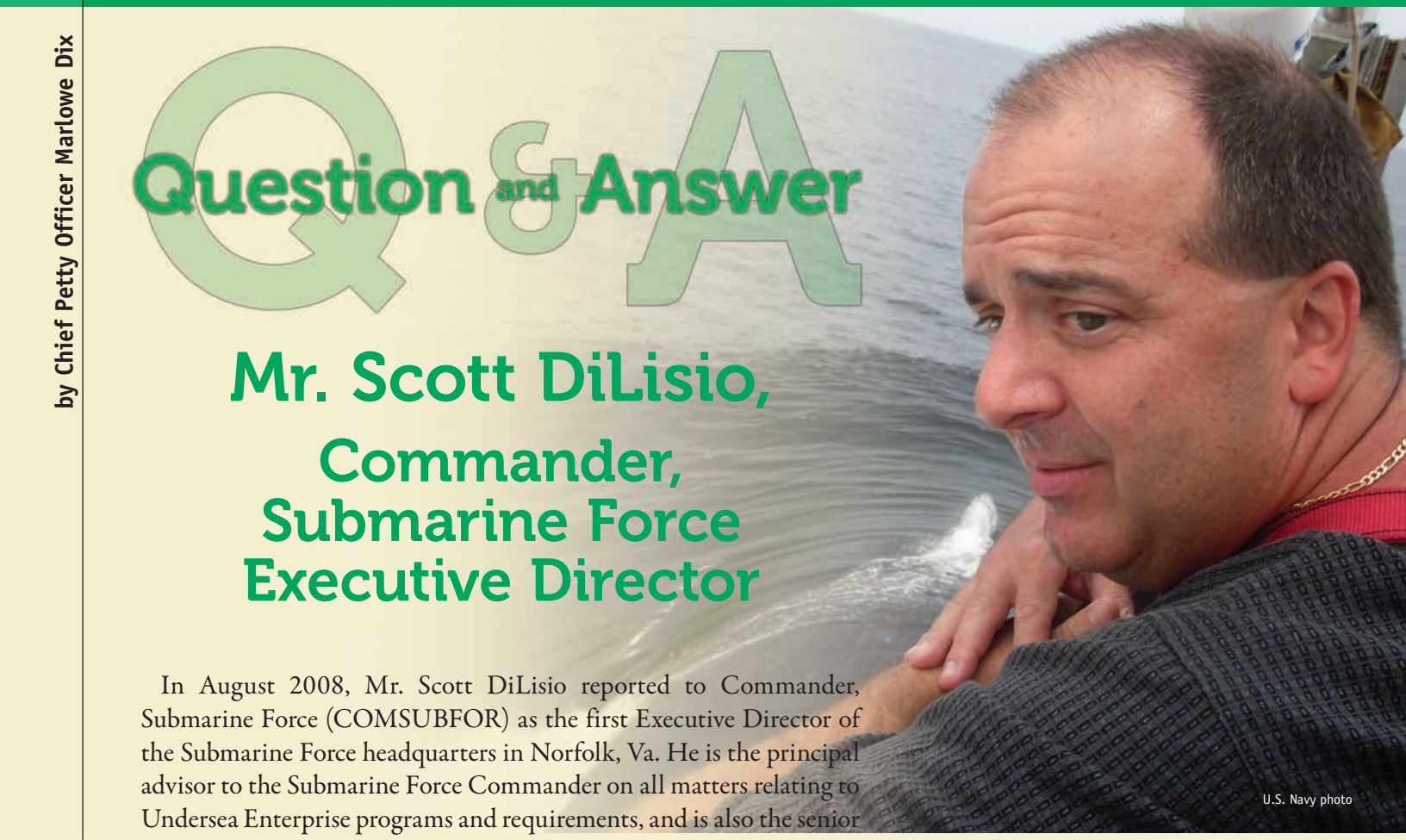
Any parting thoughts?

Overall, this is a very exciting time to be at Team Submarine. We're transitioning our premiere attack submarine from its acquisition phase into an operational, fully deployable asset; we're endeavoring to reduce acquisition and ownership costs across our programs and hitting those marks we've set for ourselves; and we're spinning up on our next-generation ballistic missile submarine because now is the right time to start. We must ensure this platform meets our affordability and capability goals so we can maintain an effective deterrent force over the life of the ship. There is a lot of work ahead of us, but we have done the tough advance work to produce the right platforms and systems on cost and on time.

Ms. Little is a former managing editor of Undersea Warfare magazine.

by Chief Petty Officer Marlowe Dix

Question and Answer



U.S. Navy photo

Mr. Scott DiLisio, Commander, Submarine Force Executive Director

In August 2008, Mr. Scott DiLisio reported to Commander, Submarine Force (COMSUBFOR) as the first Executive Director of the Submarine Force headquarters in Norfolk, Va. He is the principal advisor to the Submarine Force Commander on all matters relating to Undersea Enterprise programs and requirements, and is also the senior civilian in the Submarine Force.

Mr. DiLisio had over 20 years of civilian service for the Department of the Navy prior to entering the Senior Executive Service (SES) in 2006. His assignments focused on support and innovation of logistics for various Navy communities. COMSUBFOR is his second SES assignment. In his first SES role, he served as the Assistant Deputy Commander, Fleet Logistics Support at the Naval Sea Systems Command (NAVSEA). There, he was responsible for the program management and implementation of logistics functions, policies and processes within NAVSEA and its field activities.

Mr. DiLisio holds a Bachelor of Science in Business Administration from Strayer University. He is a recipient of numerous professional awards, including the Superior Civil Service Award, and holds an honorary commission as a Naval Supply Corps Flag Officer. He is a member of the Acquisition Professional Community.

As the Executive Director at COMSUBFOR, can you describe your role and how the position fits into the leadership chain?

I serve as Vice Adm. [Jay] Donnelly's senior advisor on all matters relating to the management of our Submarine Force. In this role, I provide counsel for executive-level decisions that aim to improve research and development, acquisition, logistics, maintenance, and modernization so that our Sailors can successfully support combatant commanders' missions. Additionally, as Vice Adm. Donnelly's principal advisor, I execute his intent by attempting to strike a sustainable balance between current and future readiness. In this capacity, I strive to allocate Submarine Force resources to best meet evolving operational and fiscal challenges. Much like other Navy Executive Directors, my goal is to bring sound business acumen and sage counsel to the Navy Enterprise.

The Commander, Chief of Staff, Force Master Chief, and I comprise the SUBFOR Senior Leadership Team. We frequently meet to establish Submarine Force priorities, tackle policy issues, evaluate war-fighting requirements, and formulate strategic guidance. However, meeting the current and future needs of the Submarine Force's officers, enlisted, civilians and families requires more effort than any one leadership team or individual can provide. Therefore, another part of my job is to increase collaborative efforts between the Norfolk SUBFOR headquarters staff, the Commander Submarine Force Pacific (SUBPAC) staff, and our partners across the Navy and industry. Overall, I feel my voice advocates the priorities, concerns and needs of the Submarine Force, which is a reflection and amplification of Vice Adm. Donnelly's positions.

What are your efforts in determining budgetary priorities for maintenance, performance, military and civilian per-

sonnel readiness, and new construction for the Undersea Enterprise?

Having been at SUBFOR for nearly a year, I'm still developing my submarine knowledge; however, during this transition I've used my programming and financial experience to affect the budgetary process. In an effort to resolve operational challenges, we continually identify budget areas that may require resource adjustment. When making these resource decisions, I try to focus on areas that will maximize material and personnel readiness while minimizing operational risk. We make every effort to prevent the creation of a hollow force.

We are working diligently to make sure that we have the right people and parts in place to properly and frugally facilitate our maintenance program. Personnel and operational readiness are directly related to success in executing our maintenance program.

As the senior civilian at the Submarine Force, could you tell us what current roles civilians play in making SUBFOR successful?

If you look across the entire Undersea Enterprise, you will find thousands of civilians supporting the nation's Submarine Force. Civilians provide continuity to our total force team, and they compliment the warrior skills, knowledge and experience of our active and reserve duty professionals.

For example, the engineers at the system commands and warfare centers determine whether specifications for our equipment are properly set. These talented people and their engineering assessments are critically important to our Force because our crews are taking these submarines into an unforgiving environment — we have to get it right.

Since becoming the Executive Director, what has been the most challenging aspect and most rewarding part of your job?

Like I said, I came from outside the Submarine Force and am still learning the submarine culture. Sometimes it is hard to find a submariner who will sing their own praises or share a good sea story with an outsider. They don't call it the silent service for nothing. I admire that humility; I should probably join the club.

The most rewarding part of this job is the confidence I feel while working with such a smart group of people. You can achieve great things with such a talented group. I can reach out on any particular topic, and I have total confidence that the people will come back and give me what I need for any decision. It is inspiring to look around the room and know I have a seat at the table and a critical role amidst so many smart people. My experience allows me to facilitate and referee the conversation, while providing a little diversity of thought. Great ideas must often be balanced with fiscal reality, or else money and time can be wasted.

Submarine Force Executive Director Scott DiLisio applies his programming and financial expertise to the COMSUBFOR budget process.

What is a typical day like for an Executive Director?

I don't think I've had a typical day since I've joined SUBFOR. My 200-mile round-trip commute requires me to get on the road early, so I spend much of that time on the phone collating the data I'll need before I get to the office. My daily schedule sometimes includes operations and intelligence briefs, personnel counseling, and submarine tours. Some days, I represent and speak for Vice Adm. Donnelly at various events; we often try to split time at as many different places as possible to maximize our bandwidth. Sometimes that includes sending the Chief of Staff to events. I know that doesn't answer what a "typical day" is like, but I can say every day is exciting.

Do you have any additional comments you would like to make?

I believe the Submarine Force is blessed with a highly skilled and dedicated team of military and civilian professionals that together make our cherished submarine culture. Efficiently using our precious resources, built on top of the principle of safe and effective operations, is the underlying theme of everything we do.

Chief Petty Officer Dix is a staff journalist with the Submarine Force Public Affairs Office.

by Petty Officer 3rd Class Luciano Marano

Trial by Water

USS *Pasadena* (SSN-752) Hosts Future Leaders of the Submarine Force

What is the formula for creating submarine executive and commanding officers? It starts with mixing four weeks of intense classroom training with two weeks of at-sea training that pushes the submarine to the maximum extent of its design capabilities. Torpedo exercises, simulated TOMAHAWK strikes, navigation drills, communication evolutions, force protection drills, submarine tracking exercises, and command decision-making situations are all important elements of the formula. While prospective commanding and executive officers can diligently prepare for these inevitable classroom and underway events, the most important factor in the formula's success is beyond their control — introducing perhaps the most important lesson these future leaders will take with them after the class concludes. No matter how effective a plan or how talented an individual leader, the crew is the necessary, vital factor that ultimately determines the formula's success.

The Submarine Command Course (SCC) introduces the "people first" tenet of the Submarine Force by forcing students to quickly indoctrinate themselves with multiple crews and work together to perform some of the most demanding evolutions experienced on a submarine. If students are unable to bring together the crew they join in the course, then no amount of individual effort, preparation or talent will allow them to succeed. It is a metric of success that begins day one of the course and carries all the way through to the end of a long career in command.

The course is a critical experience in the pipeline to command of a submarine. Run four times a year and alternated between Atlantic and Pacific training areas, the curriculum is designed to test prospective commanding and executive officers in all of the skills required for successful submarine command. An administrative board of senior Submarine Force officers select candidates to participate in the course based on previous submarining success. The course is by no means routine training. It runs prospective commanders through the gamut of scenarios at sea — all the while being scrutinized not only by their class instructor, but also the officers and crew of their host submarine.

"The students are evaluated through written and practical examinations," said Capt. John Russ, the prospective commanding officer instructor (PCOI) for Pacific submarines. "The areas of evaluation include leadership, mariner skills, and tactical and technical skill, as well as assessment of self-improvement."

USS *Pasadena* (SSN-752) recently hosted a class of four prospective commanding officers (PCOs). In teams of two, the PCOs spent one week onboard *Pasadena* under the tutelage of Commanding Officer Cmdr. Douglas Perry and Executive Officer Lt. Cmdr. Jeffrey Nesheim. They practiced intelligence-gathering and surveillance procedures, diving and docking the submarine, maneuvering procedures, and administrative duties that accompany command of a submarine.

"There has always been a form of the Submarine Command Course," said Capt. James Ransom III, Chief of Staff, Commander, Submarine Force U.S. Pacific Fleet (COMSUBPAC). "Essentially, it's the same course today, though I think the focus of the training does shift."

"For example, when I went through the course, it was a peacetime Navy, and there was a two-star admiral who sat us all down and said that there was a definite possibility that none of us would shoot a torpedo at another submarine. That's not the case today, and the training must emphasize those changes."

"Four courses are run a year," said Russ. "Two are held here at Pearl Harbor, and the other two are conducted on the east coast, with their underway time taking place off the east coast of Florida at a range near the Bahamas. Though the locations are different, the course of instruction is nearly identical."

PCOs Cmdr. Dave Minyard and Cmdr. Brian Davies spent the week onboard Pasadena alternating shifts as "duty captain," acting as the commanding officer under the watchful eye of the actual ship's CO. The duty captain directed several prospective executive officers (PXOs) and the rest of the crew in successfully running the submarine through the scenarios designed for

Cmdr. Doug Perry, USS *Pasadena* (SSN-752) commanding officer, instructs a group of prospective commanding officers (PCOs) in the proper method of mooring a submarine to the pier at Naval Station Pearl Harbor as part of the Submarine Command Course (SCC) practical exercise.

the course.

"It's been a few years since they started putting the PXOs through the course, and it's definitely beneficial," said Ransom. "As it is now, there are officers who have gone through the course twice, first as PXO, then again as PCO."

Following their week on Pasadena, Minyard and Davies went on to a new leadership challenge in the next phase of the program, onboard the diesel submarine HMAS *Waller* (SSG-75) of the Royal Australian Navy. Meanwhile, other members of the SCC class replaced them onboard *Pasadena*, to embark upon the same exercises their classmates just completed. While diesel submarine assets are not always available to participate as one of the SCC platforms, they certainly add value to the curriculum when available. Many of the United States' potential adversaries are increasing the capability of their diesel submarine forces as a way to asymmetrically threaten our larger ships. Dedicated training time against and onboard an SSK, in this critical stage of tactical and operational development of our future submarine captains, provides a valuable hedge against an ever-changing future. These officers now gain valuable experience to draw from if they ever encounter diesel submarines in the future.

"Every commanding officer is different, depending on where they grew up and how they were instructed," said Ransom. "People need that difference. They are each good at different things and focus on different things."

The ability to focus is an imperative aspect of command at sea. Living with the constant activity, rigorous work schedule, and demanding atmosphere will exhaust anyone eventually. It is up to the CO to maintain a calm mindset and think about the big picture.

"Since there are only two of us on board right now, instead of some other groups with three students, we each get to spend more time training," said Minyard. "We alternate who is duty captain every 48 hours so we both get time in command."

Under Perry's watchful eye, the duty captain takes control of the submarine and tackles the day's itinerary of training and tactical exercises.

"I really hope these guys take away from me some of the more fundamental elements of my command philosophy," said Perry. "High standards are important in this business for success and safety, and you have to enforce them in everything you do."

The PCOs aren't the only ones onboard who benefit from the exercises. The entire crew participates in the scenarios, and their hard work is evident in the quality of training.

"The PCOs are working so hard to be the

Photo by Petty Officer 3rd Class Luciano Marano

Junior Sailors from all departments on board contribute to the prospective commanding officer (PCO) exercise, including simulating torpedo firings.

The personal—yet professional—attitude of the crew is evident at every level, and the Sailors approach each new training scenario as if it were truly the real thing, with all the enthusiasm and motivation they can muster.


Photo by Petty Officer 3rd Class Luciano Marano

Cmdr. Brian Davies, prospective commanding officer (PCO), looks through the periscope while acting as duty captain of USS *Pasadena* (SSN-752) during PCO training operations off the coast of Oahu.

best, and they keep expecting that from us," said Petty Officer 3rd Class Chris Rodman. "Of course we don't want to let them down, and we always want to show what we can do. Everyone wants to perform."

Despite the added work demands that PCO training brings, *Pasadena*'s crew takes it all in stride because they know full well the benefits that come from a well-trained and knowledgeable commanding officer.

"Cmdr. Perry is great because he's always so excited about what he's doing, and that keeps us all excited," said Rodman.

When your entire world is confined beneath the water and shared with over 100 other men, a good boss can make all the difference.

"Good commands make this job fun, even when you are away from your home and family," said Petty Officer 2nd Class Jake Winton. "The CO is really enthusiastic ... and that makes this a good command. We're at sea a lot and still have a pretty good retention rate; that really says something about our boat."

The senior chain of command agrees. "I absolutely believe that a more personal and candid environment makes for a better quality of life, especially onboard a submarine," said Chief Petty Officer Erick Roberts. "It's important for the leadership to set that tone: not too friendly, of course, but still relaxed. I know that you get more with honey than with vinegar."

The personal—yet professional—attitude of the crew is evident at every level, and the Sailors approach each new training scenario as if it were truly the real thing, with all the enthusiasm and motivation they can muster.

"*Pasadena* always looks forward to training the leaders of tomorrow's submarine force," said Chief of the Boat (COB) Master Chief Petty Officer Jim Lyle. "It is an excellent opportunity to exchange ideas between the students and our crew."

"It's always good to get a fresh look with feedback of what we are doing well and what we need to improve upon, " said Lyle. "This was my fourth class during my tour as COB."

The Submarine Command Course remains the only one of its kind in the Navy, a unique right of passage reserved for one of the Navy's most elite fraternities. "There is no similar course for other communities of the Navy," said Russ.

Perry remains a staunch supporter of the program. "This is great training to emphasize the basics, and the students don't even have to go very far from home to do it. All our training is done around the Hawaiian Islands," said Perry.

Photo by Petty Officer 3rd Class Luciano Marano

Cmdr. Doug Perry, USS *Pasadena* (SSN-752) commanding officer, discusses approach procedures with a junior crew member during the submarine's transit back to Naval Station Pearl Harbor following several days of prospective commanding officer (PCO) operations.

Submariner work ethic and professionalism are legendary along the waterfront. "I didn't even know what the inside of a submarine looked like when I decided I wanted to be in the sub force," said Minyard. "I had worked with an ex-submariner who told me lots of sea stories, and I really respected him. I knew I wanted to work with the best the Navy had to offer, and that's the sub guys."

The PCOs were not to be disappointed. "*Pasadena* gave me everything I could have asked for in a training environment," said Cmdr. Brian Davies. "The PCO training regimen is a wonderful program."

Perry believes that a well-informed and properly motivated crew is the secret to *Pasadena*'s success.

"Teamwork is key in the sub force," said Perry. "We have an awesome spirit on this ship because everyone believes in what we're doing. These guys enjoy being good at what they do."

It has been said that it's lonely at the top, and the crown of leadership is reportedly quite heavy. One would never know it to watch Cmdr. Perry interact with his crew. Just as much at ease in the thick of things in the control room as he is joking with the enlisted guys in the crew's dining area, Perry stands as an excellent example of submarine leadership at its best.

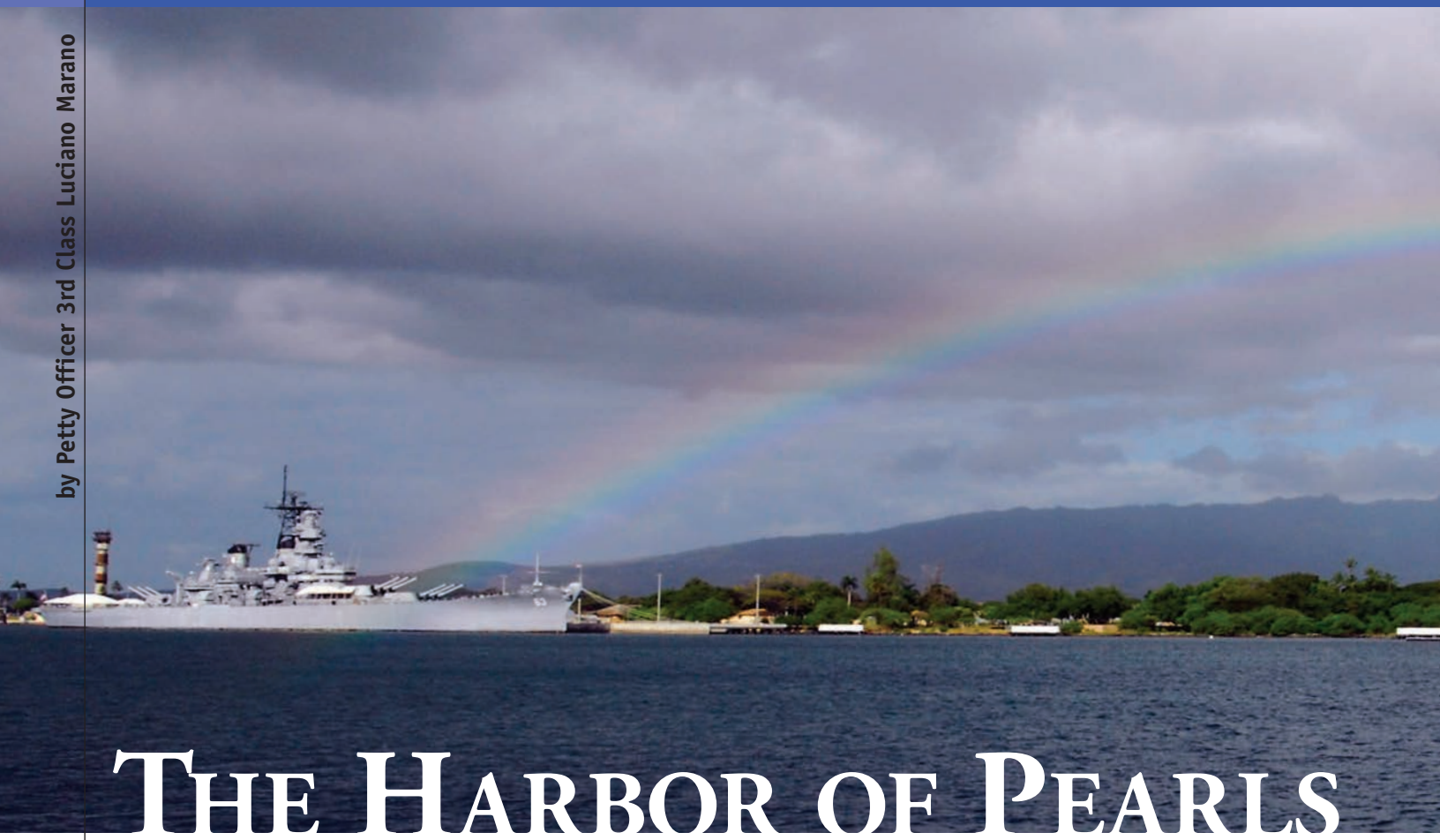
"A CO has got to know how to work with people, from the 18-year-old seaman apprentice to the 43-year-old COB, because you have to be able to lead him too," said Ransom. "You have to have a certain level of technical expertise, obviously. Even the most inspirational leader who doesn't know his ship is no good."

Of course, no man does it all by himself, and Perry is quick to acknowledge the support of *Pasadena*'s chiefs and officers. "This submarine has an excellent chain of command at every possible level," said Perry. "No matter the situation, I know we can handle it."

Perry's confidence is only reinforced in the submarine's own motto: "Anytime, Anywhere." If these PCOs take away the enthusiasm and inspiration of the Pasadena crew, their command tours are destined for success.

Petty Officer 3rd Class Marano is a Public Affairs Mass Communications Specialist for Commander, Submarine Force, Pacific (COMSUBPAC).

by Petty Officer 3rd Class Luciano Marano



The Harbor of Pearls

The area of Oahu that would one day be known around the world as Pearl Harbor was once a tranquil enclosed bay revered by the native Hawaiians for its numerous pearl-producing oysters. Known as Wai Momi (the Harbor of Pearls), it was thought to be the home of the great shark goddess Ka'ahupahau and her brother Kahi'uha.

For many years after the arrival of the first European sailors, the entrance to the harbor remained too shallow for it to be of much use as a port. It was not until the United States purchased Alaska and became more aware of the importance of the Pacific that it saw the need to obtain exclusive rights from the Kingdom of Hawaii to establish "a coaling or repair station" in Pearl Harbor. In 1887, the U.S. Navy leased land for a coal depot.

The harbor nevertheless remained largely unimproved until after the formal annexation of Hawaii in 1898. In 1900, the naval installations at Pearl Harbor were formally designated "Naval Station Hawaii," and work commenced to enlarge the channel and dredge the harbor to accommodate modern battleships, the first of which arrived to take on coal in 1903. Pearl Harbor Naval Shipyard was established in 1908. Additional areas of the harbor were deepened to take large ships, and the expansion of shore facilities at what was now called Naval Station Pearl Harbor proceeded apace. This period of great improvement and growth culminated in 1917 with the purchase of Ford Island, in the middle of the harbor, to build a joint Army-Navy airfield.

The infamous surprise attack by the Empire of Japan on Sunday, Dec. 7, 1941, brought the United States into World War II. Shortly after six o'clock that morning, six aircraft carriers operating under the overall command of Admiral Isoroku Yamamoto launched the first wave of planes, followed by a second wave about two hours later. Despite the valiant efforts of American servicemembers, the damage was severe, and the U.S. death toll eventually exceeded 2,000, including 68 civilians.

The attack was intended to catch the U.S. Fleet in the harbor and inflict so much damage that the United States would not regain the initiative in the Pacific for the foreseeable future. The obvious targets were aircraft carriers and battleships, which both sides considered the keys to victory. Fortunately, no U.S. aircraft carrier was in port when the Japanese attacked. Equally fortunate, the Japanese planes ignored the American submarine base, even though they flew directly over it on their way to attack what they considered more important targets.

This misplaced priority contributed to their eventual undoing. The U.S. Submarine Force proved to be one of the most effective American weapons in the Pacific Theater, and Pearl Harbor was its most important base of operations. Although U.S. submarines achieved significant victories over Japanese naval forces, their greatest contribution was the devastation of Japan's merchant marine. U.S. submarines sank at least 55 percent of the more than 8 million tons of shipping Japan lost during the war, crippling the merchant fleet's ability to support the Japanese war machine and giving Allied forces in the Pacific a tremendous advantage.

By the end of World War II, U.S. submarines had made more than 1,600 war patrols, but the cost of their success was heavy. The U.S. Pacific Fleet lost 52 submarines, and more than 3,500 submariners perished.

The years after World War II saw numerous improvements to the facilities at Pearl Harbor, including the construction of additional piers and modifications necessary to support nuclear-powered warships. Today, Pearl Harbor is one of the most advanced naval installations on the planet. It is the home of several major military commands, including the U.S. Pacific Fleet, and every year receives ships from numerous allied

Photo by Petty Officer 2nd Class John Wallace Ciccarelli Jr.

countries around the world. Several memorials commemorate the tragedies of the past, each one frequented by thousands of visitors from all walks of life and many nationalities.

What was once a tranquil pearl fishery sacred to a Hawaiian goddess has grown into one of the most important and unique locations in the Pacific. From ancient Hawaiians to modern Americans of all origins, everyone has realized the importance of this place, no matter its name.

Petty Officer 3rd Class Marano is a Public Affairs Mass Communications Specialist for Commander, Submarine Force, Pacific (COMSUBPAC).

U.S. Navy photo

Photo by Petty Officer 2nd Class Kevin O'Brien

(Above) A rainbow appears over the USS *Arizona* Memorial.

(Right, top) Aerial view of "Battleship Row" moorings on the southern side of Ford Island, Dec. 10, 1941, showing damage from the Japanese raid three days earlier.

(Right, bottom) Secretary of the Navy (SECNAV) the Honorable Ray Mabus and his wife, Lynne Mabus, pay their respects at the USS *Arizona* Memorial in Pearl Harbor, Hawaii.

by Carl Haines, Jimmy Lee, Bill Beatty, and Carlos Tavares

SMMTT

SUBMARINE MULTI-MISSION TEAM TRAINER

A REVOLUTIONARY STEP FORWARD IN SUBMARINE ATTACK CENTER TEAM TRAINERS

Historically, all combat and sonar trainers have not had the fidelity to conduct effective training at anything more than the basic level. This problem, combined with a need for trainers that reflected the integration of commercial off-the-shelf (COTS) technology into our combat and sonar systems, required a new solution. The Naval Sea Systems Command (NAVSEA) Training Program created a unique team arrangement that led to the development and fielding of the world's most modern sonar and combat control training system: the Submarine Multi-Mission Team Trainer (SMMTT). SMMTT is the Submarine Force's premier ashore combat system team trainer; it provides team training for the entire submarine attack party. This trainer, used primarily in pre-deployment training (PDT), hones submariner's skills in strike warfare; anti-submarine warfare; anti-surface warfare; Navy special warfare; mine warfare; intelligence, surveillance and reconnaissance; navigation; and command, control, communications, computers and intelligence. To ensure mission success, SMMTT allows for the officer of the deck and his sonar, combat control, weapons launch, electronic warfare support, imaging, and ship control teams to execute complex scenarios in a high-fidelity, realistic simulation that replicates forward-deployed operations.

The Submarine Force has used combat control trainers for decades. However, they lacked the fidelity and complexity required for realistic training due to computer modeling and simulation limitations. The latest version of this trainer, SMMTT, includes tactical databases and the Oceanographer of the Navy's highest fidelity oceanographic models running in real time. SMMTT simulates an unlimited combination of operating environments, anywhere in the world, at any time of year, allowing the submarine crew to practice submerged or surfaced operations.

In the 1970s submarine training facilities received the first digital submarine sonar and combat system trainers. These trainers were stand-alone devices used for individual operator and small team training. Fully integrated team training did not begin until 1981, when an interface allowed two simulators to operate within the same scenario. As the *Ohio*-class SSBNs commissioned with digital sonar and combat systems, team trainers were developed and fielded to support crew certification and proficiency.

NAVSEA developed SMMTT Phase I and II in response to the Acoustic Rapid Commercial off the Shelf (COTS) Insertion (ARCI) program. These trainers replicated the various ARCI system configurations and established a hardware standard as the ARCI program grew. Due to the lower cost of COTS tactical computers, SMMTT was able to use superior training software, which in turn decreased the amount of time needed to deliver an operational trainer to the Fleet.

More recently, in response to technological developments in software and sensors, NAVSEA and a cross-functional team of industry and Navy experts developed SMMTT Phase III. This team substantially improved SMMTT's quality and overall capability, while decreasing the cost of the trainer by a factor of two. They achieved these savings and maintained the unmodified tactical software by utilizing less expensive, commercially available hardware. SMMTT Phase III now provides greater fidelity, which in turn fully supports the Fleet's requirement for immersive training. This product was so successful that NAVSEA and the diverse team that coordinated on SMMTT Phase III won both the 2008 Warfare Center Collaboration Award and 2008 Secretary of the Navy Acquisition Innovation Excellence award.

Three different Navy laboratories collaborated to create a unique team. Each group contributed its core competency of excellence in new software development and repurposed existing software components to form SMMTT. Naval Surface Warfare Center, Carderock Division (NSWCCD) provided high-fidelity synthetic signature generation for sonar, visual, and infrared signatures. These raw signatures stimulate actual tactical systems. Naval Undersea Warfare Center Division Newport (NUWC Newport) provided simulation/stimulation of the BYG-1 combat control system, including extensive tactical Tomahawk support and an external

The Submarine Multi-Mission Team Trainer (SMMTT) at the Naval Submarine School in Groton, Conn.

interface to support Fleet synthetic training. Naval Air Warfare Center Orlando, Training Systems Division (NAWCTSD) provided emulations for combat system components where it is too costly to use real tactical systems. NSWCCD, which acts as the system integrator, led the successful delivery of eight SMMTT installations at six major submarine homeports. This level of successful collaboration is a prime example of Warfare Centers teaming to provide the Fleet with superior products.

In 2005, to prepare for a weapon system upgrade on USS *Boise* (SSN-764), NAVSEA delivered the first SMMTT Phase III to Norfolk, Va. Since then, the program has delivered a variant for *Ohio*-class SSGNs to the submarine bases at Kings Bay, Ga., and Bangor, Wash. Additionally, NAVSEA plans to deliver SMMTTs for homeports with *Virginia* and *Seawolf*-class submarines.

SMMTT is designed to remain synchronized with tactical development TIs and APBs delivered to the Fleet. Fleet synchronization enables seamless submarine participation in Fleet Synthetic Training exercises via the Navy Continuous Training Environment (NCTE). Complementing this synergy, the Weapons Analysis Facility (WAF) in Newport, R.I. simulates newly delivered weapons and can provide the weapons model for SMMTT.

The heart of SMMTT simulation is the All World Environment Simulation (AWESIM) for sonar. AWESIM generates a full spectrum signature — speed-, aspect-, and operating mode-dependent — for each target in the scenario and stimulates the sonar system for each array. Each array receives up to 40 simulated ray paths from each target and directional ocean noise. Actual tactical sonar system capability is required to handle the magnitude of processing in simulation. Before SMMTT was developed, the common thinking was that this was impossible.

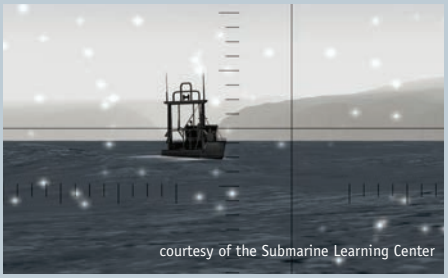
SMMTT Phase III also provides a quantum leap in periscope simulation. High-contact-density environments are some of the most challenging situations a crew faces on deployment. Simulating this environment is critical to support crew training and mitigate future risk in real-world engagements. Not surprisingly, the hardware solutions that enabled the NAVSEA team to develop a new periscope simulation (PSIM) came from the video game industry. Optical and infrared signatures project on a small, high-resolution display located in the periscope and on tactical displays for over 80 targets in the field of view. This imagery is correct for sea state, ambient lighting and atmospheric conditions (fog, rain, snow, dust, haze). Also, the sun, moon and star positions, as well as land masses, are correct for latitude, longitude, time of day and year.

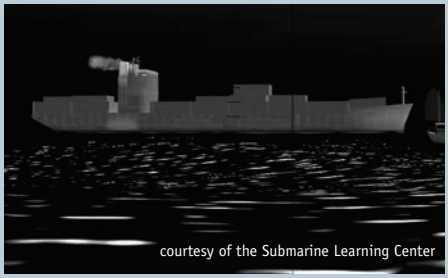
On top of crew training, SMMTT can host crew certification for deployment. SSGN crews receive their squadron certification, a continuous 72-hour training exercise, in the SMMTT. Trainer-based certification is critical to the SSGN operational schedule; the crews are transplanted from their homeport SMMTT to deployed submarines in very short order!

SMMTT also provides a venue to develop and refine tactics for operational war plans, to develop doctrine on the employment of the combat systems (with both today's and future capabilities), and to test APBs in the Submarine Warfare Federated Tactical Systems (SWFTS) facility. This advanced, high-fidelity integrated string testing has reduced software problems in units delivered to the Fleet. APB07 SWFTS testing resulted in the most successful APB sea test in the history of the program. SMMTT supports operator loading analysis (Watch Section Task Analysis), return on investment studies, and testing of foreign weapon systems. The SMMTT simulation is the foundation for the new surface ship sonar trainer and Integrated Undersea Surveillance System trainer.

SMMTT also contributed to the proof-of-concept demonstration of the Submarine Littoral Defense System (SLDS), a submarine-launched surface-to-air missile. For this demonstration, SLDS developers integrated a new prototype display into existing menus so that a periscope could target and fire a simulated SLDS in a realistic environment. The SMMTT-based simulation, easily integrated in the open-architecture design, provided proof of concept for this exciting new capability.

The SMMTT approach represents a revolutionary step forward in the delivery of high-fidelity virtual trainers. Warfighters can synthetically train in the areas they will deploy, training on their own tactical systems. This new approach is delivering trainers at higher fidelity and much lower cost than previous trainers. The synergy of SMMTT's capabilities allows support in applications beyond the originally designed role of submarine team training. SMMTT integrated technologies are being used for sensor research and development, doctrine and tactics creation, and a test bed for laboratory and industry evaluation prior to Fleet introduction. Because of the success of SMMTT, NAVSEA adopted the SMMTT approach across all of its submarine trainer efforts. Leveraging processes, architecture, and technology will continue to produce more capable trainers at lower cost for the Submarine Force. Adopting the SMMTT model beyond its current applications has the potential to deliver significant additional benefits across the NAVSEA portfolio.





Simulated high contact density environments in the SMMTT consist of optical and infrared signatures projected on small, high-resolution displays.

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Mr. Beatty is the Submarine Multi-Mission Team Trainer Technical Manager at NSWC Carderock, Md.

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by Capt. Kenneth A. Swann, USN

BRIDGING THE GAP TO READINESS

I had an opportunity to present at the 2009 Submarine Technology Symposium (SUBTECH 2009) in May. Sponsored by John Hopkins University's Applied Physics Laboratory (JHU/APL) and the Naval Submarine League, SUBTECH is a forum that examines current, emerging, and future technologies with an eye on applications for the submarine warfighter and enhancements to both current and future operational submarine force capabilities.

I was introduced at the symposium by Vice Adm. George Emery, USN (ret.), as "the training guy"; however, I'd be remiss if I didn't acknowledge the "real training guy": Rear Adm. Arnold Lotring, the Chief Operating Officer of the Naval Education and Training Command and first Commanding Officer (CO) of the Submarine Learning Center (SLC).

The goals of my presentation and remarks, reproduced here, are to offer a glimpse into Submarine Force training's evolving and always-changing world of roles and missions, a snapshot of the "here and now", and a quick glimpse of what lies ahead. Hopefully, this will stimulate a discussion on the challenges, realities and strategies for deploying Submarine Force capabilities in the near term, detail the Submarine Learning Center's engagement with system commands (SYSCOMs) and type commanders (TYCOMs) within a synergistic Modernization Training Team concept, and offer a shared vision of the future focused on warfighter performance.

The Submarine Force has a continuum of available training tools, both ashore and afloat, covering a broad spectrum of Submarine Force core competencies and challenging mission areas. *(See figure 1.)*

These trainers include high-fidelity, information-age trainers. One example is the SMMTT-3 (now just called SMMTT, or Submarine Multi-Mission Team Trainer).

SMMTT runs the latest tactical sonar and fire control software, hosts electronic navigation, and integrates the automated information services (AIS). The trainer is capable of supporting all sensor sources, including high frequency sonar, in a realistic multi-path ocean. It features computing power able to run high contact-density management scenarios and support 72-hour continuous training events for SSGN certification and tactical development. SMMTT is now installed in all but one submarine homeport — Guam — which will receive SMMTT in Fiscal Yeat 2012.

This spectrum of devices and systems provides an integrated-training tool box to support skill-based training for individuals and teams from initial pipelines through shipboard qualification and continuing training programs. The training package culminates in full mission-profile proficiency training, including the insight of so-called "graybeards," i.e., retired career submarine officers brought back as civilians to school houses, where their experience helps bring the human element to the training equation.

The April 2009 *Submarine Review* published the remarks of Cmdr. Marc Stern, USS *Topeka* (SSN-754) Commanding Officer, from the SUBTECH 2008 meeting. He recalled his pre-deployment training with one of the Graybeards, retired Capt. Ollie Oliver: "One of the scenarios we did during the week seemed a bit odd — it wasn't the typical scenario I was used to seeing in the countless attack centers I had previously done throughout the years. But, we did the scenario, collected our lessons learned when complete, and moved on to the next event. Imagine my surprise when months later, while conducting real-world operations, we were faced with nearly the same situation. That operation went very well for us."

Cmdr. Stern's example demonstrates how training and capability meet to produce and enhance readiness. Acoustic

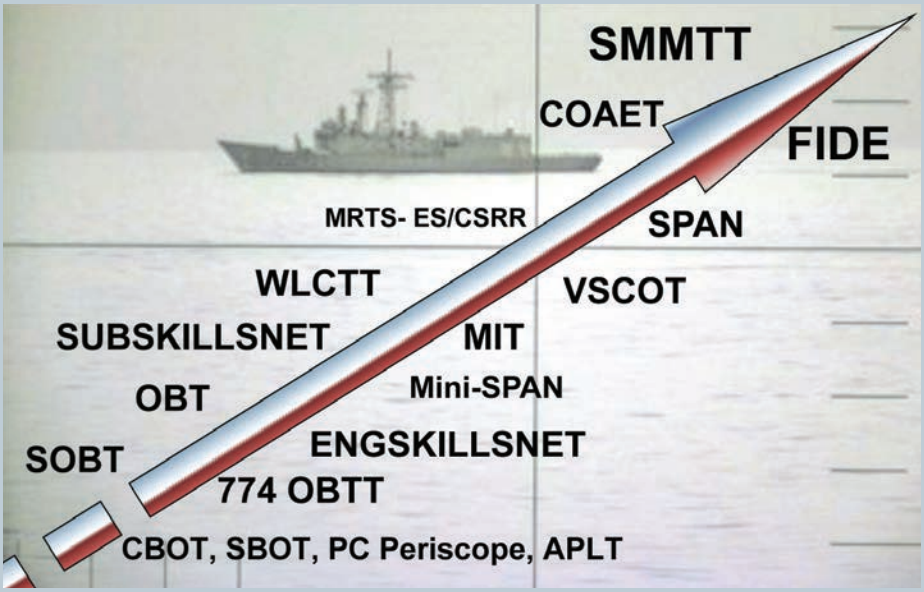


Figure 1. The continuum of training tools available to the Submarine Force cover a broad spectrum of core competencies and mission areas.

Rapid Commercial off the Shelf (COTS) Insertion (ARCI) was highly successful because the operator was in the loop with the developer, using a BUILD-TEST-BUILD and rapid prototyping strategy. But unless the training community is inserted in the loop along with the development community and stays in the development loop, technology soon outpaces *both* the trainer and the operator. This results in modernized systems beyond the Submarine Force's ability to grasp, to train with, and therefore fully employ.

Though today's equipment is more capable, the operator *is not*. Equipment capability does not equal operational readiness unless the equipment is placed in the hands of a skilled, trained operator. The training community must meet the real and demanding challenge of deploying improved capabilities from new technology and rapidly modernized systems. Without training, the end result is reduced *readiness* at an increased cost of new equipment.

The Submarine Force has historically struggled at times to connect across the institutional boundaries of installation training (think SYSCOM), individual training (think schoolhouse), and team training (think TYCOM). The mandate for a radical departure from our historical processes was evident. To enable future success, timely and mature training needed to better support the pace of continued technology insertion and rapid modernization of complex systems. *(See figure 2.)*

Using a value chain approach, the Submarine Learning Center, TYCOMs, and SYSCOMs — including the Submarine Acoustic Systems Program Office (PMS 401); the Submarine Combat Systems Program Office (PMS 425); the Program Executive Office, Submarines (PEO SUB); and the Program Executive Office, Integrated Warfare Systems (PEO IWS) — partnered to form a combined group known as the Modernization Training Team (MTT). Several geographically diverse teams actually make up the MTT network. Together, they can deliver simultaneous modernization training to more than one ship in more than one homeport — a benefit to the SYSCOM. They also conduct at-sea training — a benefit to the ship and TYCOM.

Central oversight is provided by the Submarine Learning Center's modernization training director, a senior Navy civilian who is a tactically current and technically savvy former senior submarine officer.

The modernization training director participates with the TYCOMs and SYSCOMs in the command, control, communications, computers, collaboration, and intelligence (C5I) conference. He coordinates SYSCOM, TYCOM and learning site schedules and resources to best facilitate a consistent, organized and efficient modernization training program. The program must simultaneously train both the individuals and submarine teams following modernization periods for and in every homeport, including Guam.

The Modernization Training Team process spans the advanced processor build (APB) cycle from beginning to end, looking across from left to right. *(See figure 3.)* The process delivers modernization training to submarines as a networked training force and engages the instructor with the developer — early and often — and provides Fleet feedback to the developer.

Now note the right side of the graphic, which depicts the MTT jointly developing and deploying the approved curricula currently residing at local learning sites. This strategy allows for advanced preparation, in-time delivery, post-training event refreshes, and pipeline training updates.

The MTT process provides both officers and enlisted Sailors training for system operation and employment. The result is local military subject matter experts who are both a school and waterfront resource, and who eventually return to sea aboard a modernized submarine.

It follows, then, that for a world-class Submarine Force, there must be world-class human factor engineering. Training and human-machine interface (HMI) designs lead to capabilities and competencies enabling human performance. The result is mission execution — also known as readiness. Let me say it in a different way: it's about the Sailor with his gear, not just about the box — which is *exactly* why we can't pause for even a second in the training world.

With high-fidelity information-age trainers covering a spectrum of core competencies and mission areas, an engaged modernization training strategy spanning the value chain, and trainers keeping in the loop with the developer, there's a temptation to be satisfied, but *don't*!

In our collective zeal to rapidly provide capability and thereby enhance readiness today, the graphic depicts what the operator sometimes gets. Read the fine print note, written in black. *(See figure 4.)*

There's nothing wrong with this graphic; it's not scrambled. In fact, it's completely

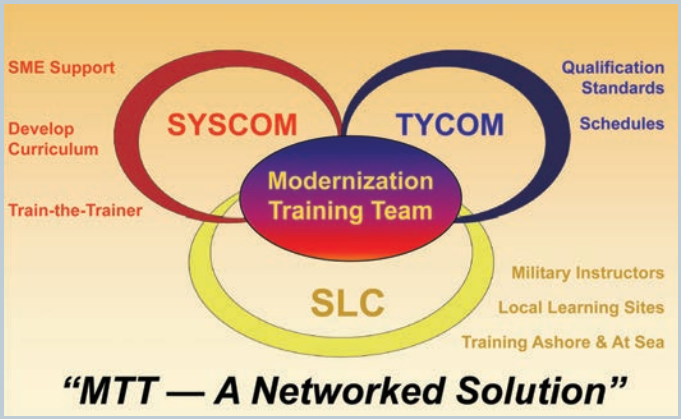


Figure 2. The Submarine Learning Center, TYCOMs, and SYSCOMs have partnered to form a combined group known as the Modernization Training Team.

Figure 3. The Modernization Training Team process spans the APB cycle from beginning to end

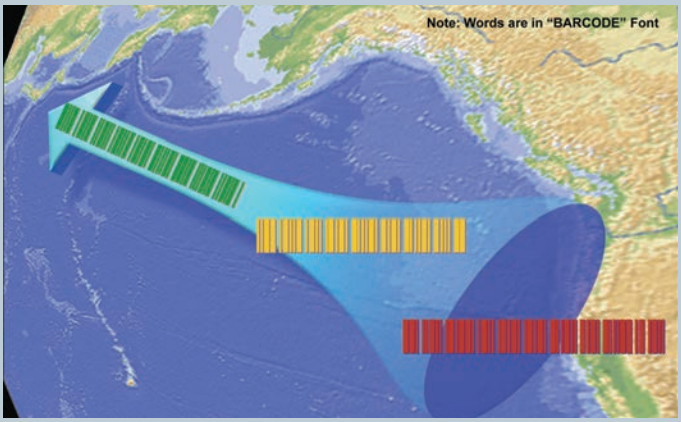


Figure 4. Data is presented in a machine-readable format using a font called "3 of 9 BARCODE."

Figure 5. The same data shown in Figure 4 presented as plain text in a font readable to the operator.

machine-readable. I used Microsoft Office's capability of converting letters to a digital barcode by highlighting the words and selecting the font called "3 of 9 BARCODE" instead of "Arial" or "Times New Roman".

Some might say that the SLC should train operators to read this barcode-converted text. After all, we are in the digital information age… but I disagree with that strategy. I would argue with the system developer that having this capability to convert text to digital barcode format — while interesting, unique and not without possible future potential applications — does *not* make today's reader of *this* article any more ready to understand me, which is my mission.

I would further tell the developer to remember that equipment displays are just that, displays for humans — the operators. Equipment displays are not for communicating information from one machine to another machine — that's done through a data port. Designs that place the human apart from the system levy an unintended and often unrealized tax upon ultimate system performance — a tax that is paid through additional time spent training, if paid at all.

Let me try a better design to share information. *(See figure 5.)*

That's better. Now I can get to my point.

It is an undisputed fact that our Nation builds and equips highly capable submarines. Since our Navy delivers readiness by deploying these highly capable warships with well-trained Sailors, we must never forget that the critical link between capability and readiness is a team of well-trained Sailors. So, the question remains: how to bridge the gap from capability to readiness? The answer is, of course, warfighter performance — certainly including, but not limited to, *training*!

Following Commander, Submarine Force, Vice Adm. Jay Donnelly's leadership in engaging the Defense Advanced Research Projects Agency (DARPA), the Office of Naval Research (ONR), and the science and technology communities, my predecessor, Capt. Hass Moyer, also engaged these groups. He focused on developing and improving existing and future human performance as warfighters. One of the ways Capt. Moyer did this was by serving as a co-chair of SUBTECH's Warfighter Performance Integrated Product Team. The position afforded him an excellent opportunity to engage with both industry and academia. *(See figure 6.)*

We have enjoyed successes, but more hurdles remain as we endeavor to deploy capabilities that enable warfighter readiness.

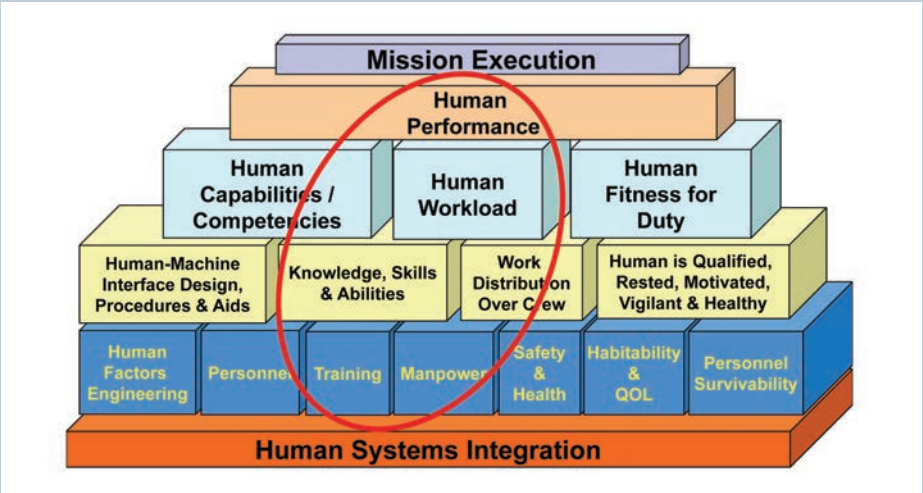
My challenges as the Submarine Learning Center Commanding Officer are threefold:

First: If training is not in your development cycle, put it there, and keep it there by supporting SLC-SYSCOM-TYCOM partnerships and the Modernization Training Team.

Second: Invest in making technology simple and easy to use by always factoring the human operator into your design considerations.

And finally: Partner with Team Submarine and the SLC for future training solutions through the Warfighter Performance Integrated Product Team. We need your energy, ideas and resources.

Figure 6. The Submarine Learning Center has focused on developing and improving existing and future human performance as warfighters.



Capt. Swann is the Commanding Officer of Submarine Learning Center. His previous assignments have included Commanding Officer, USS *Tennessee* (SSBN-734) (GOLD); Commanding Officer, Naval Submarine School; and Chief of Staff, Commander, Submarine Group TWO.

SWIM BIKE RUN

by Lt. Cmdr. Don Cross

Lt. Cmdr. Don Cross, Strategic Weapons Officer, Commander, Submarine Squadron 20 (CSS-20), was the first submarine Sailor to officially represent the Submarine Force in the world-famous Ford Ironman World Championship in Kona, Hawaii. This year's Iron Man, held Oct. 10, included six sponsored Navy Athletes from various Navy communities, including a SEAL, Civil Engineering Officer, Meteorologist, Naval Flight Officer, Surface Warfare Officer, and Lt. Cmdr. Cross — our Submariner! The Iron Man Triathlon consists of a 2.4 mile ocean swim, 112 mile bike ride, and 26.2 mile marathon run over volcanic rock-covered terrain in tropical island heat.

Photo by Petty Officer 1st Class Christopher Blachly

Photo by Petty Officer 1st Class Christopher Blachly

I am Lieutenant Commander Don Cross, and I competed alongside 1,800 of the world's top athletes, crossing the finish line on Alii drive after 12 hours and 54 minutes of continuous racing in extreme heat and high winds during the 31st Ford Ironman World Championship.

As I crossed the finish line, I held the Navy flag high over my head and felt an intense amount of pride and honor in representing the Navy and Submarine Force in which I serve. I travelled to Kona to represent the Navy and demonstrate that a submariner can train and overcome challenges to achieve significant goals, and I completed the mission successfully.

My training and preparation were key factors in allowing me to complete the competition without ever hitting the wall or feeling like quitting. I enjoy testing my limits, and I trained hard — approximately 18 to 20 hours a week — for Iron Man in Kona. It's a huge challenge, and not just physically. By the end, around mile 23, your legs are done, and you want to slow down. Your body is just shutting down, and it's a challenge to get nutrition into your body. Then it becomes about deter-

(Left) Lt. Cmdr. Don Cross, a submarine officer from Merritt Island, Fla., carries the Navy flag across the finish line of the 2009 Ford Ironman World Championship in Kailua-Kona, Hawaii.

(Above) Lt. Cmdr. Cross rides in the 112-mile bike race, the second stage of the 2009 Ford Ironman World Championship.

mination and the mental ability to keep moving. You have to improvise and adapt to overcome challenges in the field. You may get kicked in the face, or get a flat tire, or your goggles may leak, but you just have to continue on the best you can.

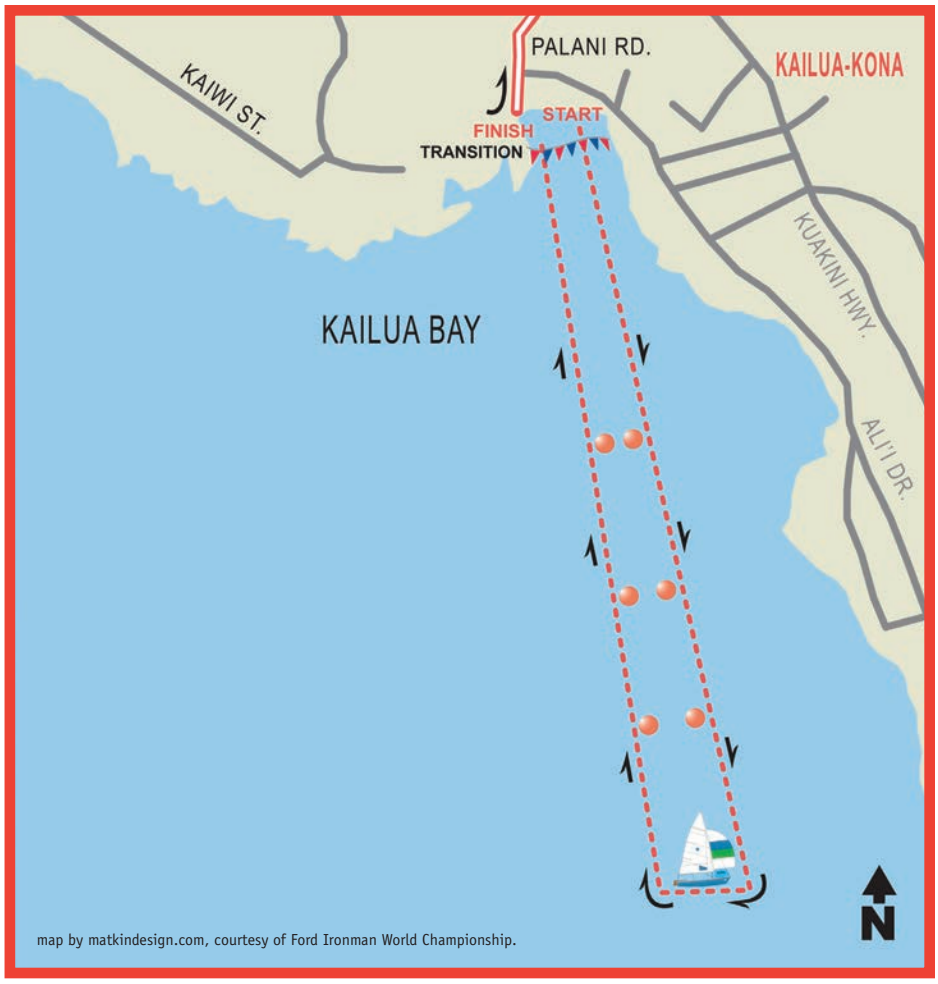
I finished the open-ocean swim in one hour and 13 minutes and transitioned quickly to the 112-mile bicycle race. The swim went very well for me. Other than getting a punch in the eye and a kick to the throat that almost knocked my teeth out, I felt great during the swim and enjoyed watching the sun rise.

The most challenging part of the triathlon was the bike portion. I wanted to push harder on the bike, but the headwinds during the climb up to Hawi really tapped my energy level and prevented me from pushing my heart rate above zone. Then, at mile 80, the crosswind shifted into another headwind and made for a mentally tough push for the final 32 miles. The hills — mountains to a Floridian — and winds were the toughest I've ever biked.

I had a good marathon run, conquering the lava fields at the energy lab in four and a half hours. I trained in Southern Georgia heat, so although the lava fields were scorching, I felt comfortable during the run. I kept up my hydration and nutrition regime, and that training discipline kept me from getting sick during the marathon. The last eight miles are usually the toughest for me, with mental and physical fatigue setting in, but my family, friends and shipmates kept me motivated during those critical miles.

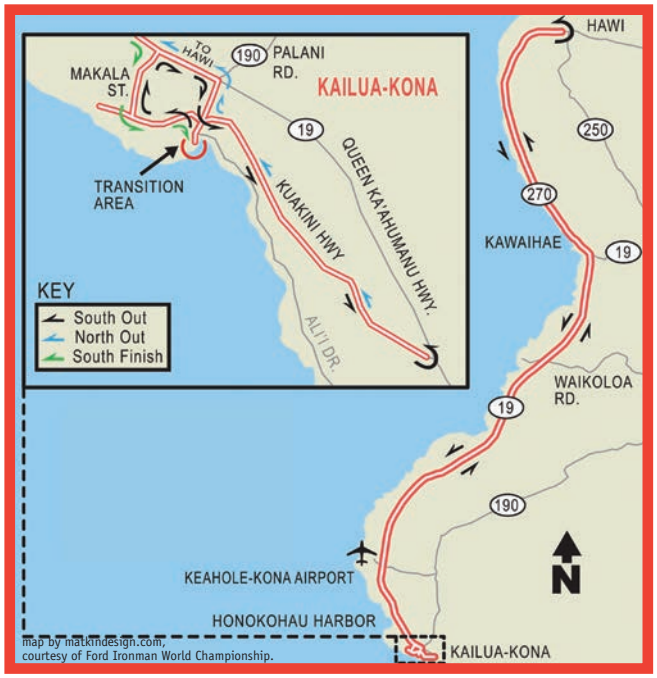
At various mile markers throughout the race, I would experience people who motivated me in many different ways to keep running. To see a double amputee biking with mechanical legs, to run alongside an Army Ranger, to see the USS *Paul Hamilton* (DDG-60) Sailors in uniform, and to know that my own contingent of supporters was following me through all 140.6 miles of the race, cheering me on, motivated me right up to the finish.

Despite the rough ocean swim, the windy bike, and the long, hot run, I never thought



(Above) Map indicating the course of the 2.4-mile swim that is the first leg of the Ford Ironman World Championship.

(Right) Lt. Cmdr. Cross trains for the 2009 Ford Ironman World Championship.



Map indicating the course of the 112-mile bike that is the second leg of the 2009 Ford Ironman World Championship.

Map indicating the course of the 26.2-mile run that is the third leg of the 2009 Ford Ironman World Championship.

As I crossed the finish line, I held the Navy flag high over my head and felt an intense amount of pride and honor in representing the Navy and Submarine Force in which I serve. I travelled to Kona to represent the Navy and demonstrate that a submariner can train and overcome challenges to achieve significant goals, and I completed the mission successfully.

about quitting. Kona is the toughest triathlon in the world, and there is no guarantee of finishing. The challenge of finishing in the face of unknown course conditions was what fueled my desire to compete in a triathlon of this magnitude.

It was a truly humbling experience to compete in a field of the world's top tri-athletes; yet at the same time I was extremely proud to stand there in uniform and represent the finest Navy in the world. Even though you train and prepare, you just don't know if you'll be able to dig deep enough to overcome the challenges at Kona and push past mental and physical limits to cross the finish line. This is what separates this race from other triathlons: the challenge.

I have two teenage boys, and my training and participation in Iron Man took time away from them. I think that's one of the reasons I was chosen to compete. I juggle so many things at once: father, full time graduate student, Navy career and my training schedule. Each day is a challenge to ensure that I meet all of my responsibilities and obligations and still allow time to train for the Ironman. During the days prior to the race, I was still attending college class on line and tracking my boys' progress during their local swim meet.

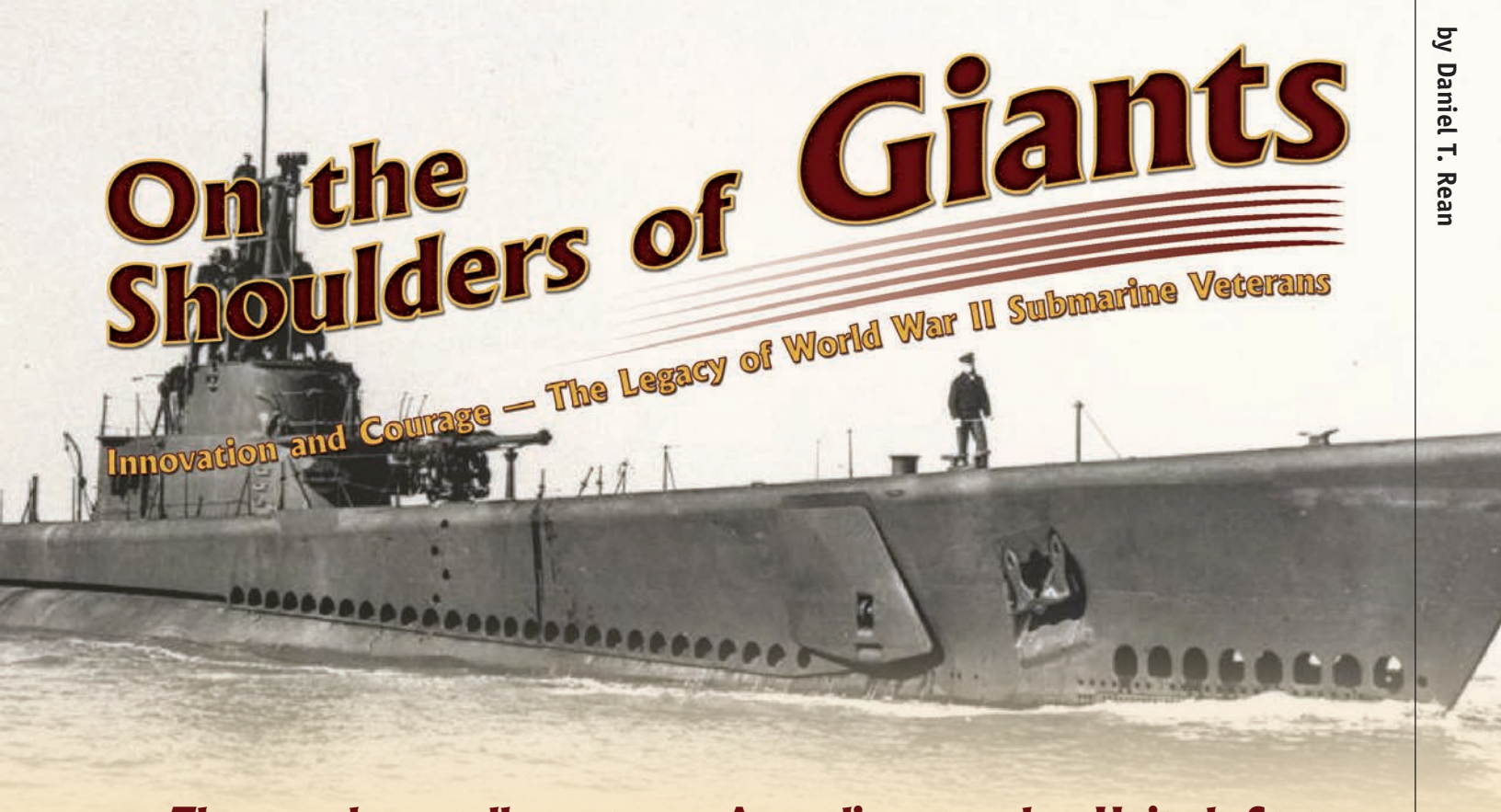
Now that I'm back from Hawaii, I've had time to reflect upon the triathlon and the lessons I've learned. I learned what my limits are and that I could push past them to achieve a new, much higher goal. More importantly, I learned that this triathlon is truly a team sport, and I couldn't have completed it without the unfailing support of the family, friends and shipmates who have enriched my life. Next for me is the Walt Disney Marathon in January, and I'm now training to run a personal record in that race.

There was a lot of extra pressure for this competition in Hawaii. Before Kona, completing a triathlon was just me out there for fun, but this time people were counting on me to represent them. This was my chance to go to Kona, to compete in the Iron Man, and to represent the Navy and the Submarine Force — it was a once-in-a-lifetime opportunity for me!

Lt. Cmdr. Don Cross finished 207th in his age division at the 2009 Ford Ironman World Championship in Kailua-Kona, Hawaii.

On the Shoulders of Giants

Innovation and Courage — The Legacy of World War II Submarine Veterans



by Daniel T. Rean

The numbers tell a story. According to the United States Department of Veterans Affairs, approximately 900 World War II veterans die every day. But that number is not the whole story. What we are really losing is a unique brand of warriors who let nothing stand in the way of the march toward victory, and no World War II veterans typified that never-say-die attitude more than the veterans of America's submarine service.

Submariners could not afford to wait for the experts to solve their problems for them. Theirs was a war fought against the empire of Japan and the conventional wisdom of military planners and ship designers. From bridge to galley, all hands took the view that repairs could be made with anything available, and every submarine Sailor knew that an unprecedented ordeal lay ahead. And as if submarine warfare were not dangerous enough, in addition to their assigned duties they were called upon to fill in as engineers, structural mechanics, medics, skin divers, demolition and weapon experts, interrogators, and armed commandos. The submariners of World War II overcame the adversity created by material shortages, faulty weapons, poor training, faulty tactics, and the limited vision of military planners. Through trial by fire they became the embodiment of the order to "conduct unrestricted submarine warfare against the enemy."

Although the attack on Pearl Harbor was researched, planned, and executed masterfully, the Japanese pilots who carried it out neglected one vital detail. Their bombs and torpedoes were specifically marked for expenditure on the battleships at anchor and the aircraft carriers thought to be moored off Ford Island. The submarines, submarine tenders, and submarine repair facilities were considered minor targets. Even the munitions dumps on nearby islands and the torpedo shop at Pearl were bypassed during the attack. It was a decision that carried disastrous consequences for the Japanese high command.

Pearl Harbor set into motion a succession of rapid and extensive Japanese conquests that carried their armed forces to Malaya, Burma, Indonesia, the Philippines, and the Western Pacific until they threatened India in the west, Australia in the south, and Midway and Hawaii in the east. Against the rush of those Japanese conquests, Allied strategic planners theorized that no action could be brought against the enemy until

U.S. Navy photo

In the control room of USS *Cerro* (SS-225) during battle stations.

the lines of communication were secured against the loss of America's battleships and the shifting of naval assets to support the priority assigned to the defense of the Panama Canal and Caribbean seaports. Naval strategy was still largely based on the structural model established by Alfred Thayer Mahan, which emphasized large, consolidated sea forces capable of controlling seaborne commerce. Although the Navy was better prepared for World War II than it was for World War I, naval planners and politicians made the mistake of building their fleets around battleships, aircraft carriers, and cruisers, paying too little attention to the utility of submarines.

In the early stages of the war, the transition from peacetime to wartime operations was slow in coming. During peacetime training evolutions practiced on high speed targets, any commanding officer (CO) whose submarine was detected during an attack was reprimanded. In Pacific submarine squadrons, COs were threatened with instant dismissal from command if their periscopes were detected during their approach to a target. Most submarine skippers were therefore cautious and relied heavily on tactics that emphasized attacks conducted well below periscope depth.

The problems with non-aggressive COs at the beginning of the war were to be expected, since those submarine commanders were products of a peacetime Navy that emphasized discipline and drill. The overcautious attitudes of many submarine COs were also a reflection of the procedural and tactical shortcomings of the squadron commanders. Despite the lessons taught by the First World War, allied military planners only considered how to stop the menace of enemy submarines, not how to use their own submarines as the deadly weapons that they were. So it was not surprising when the USS *Seawolf* (SS-193), under the command of Lt. "Fearless" Freddy Warder, received orders for her first war patrol that simply instructed her to deliver 40 tons of .50 caliber anti-aircraft ammunition to the Philippines and return to port with personnel or equipment as directed by those in command at Corregidor. Mystified by the brevity of those orders, Warder visited squadron headquarters prior to his ship's departure to ask if *Seawolf* could "seek attack on the enemy." The division commander commended Warder for seeking the advice of his superiors and ordered him to "do nothing to jeopardize the success of the mission or unduly delay it." In short, Seawolf was used as a transport vessel—with specific orders *not* to engage the enemy. Poor organization, a lack of aggressive leadership and material defects resulted in the majority of submarine patrols ending with no ships sunk.

When submarine skippers were finally ordered to conduct offensive patrols, their troubles with the enemy took a back seat to their troubles with their torpedoes. No one quite understood what the problem with the torpedoes was, but each captain returning from patrol had the same story: they fired torpedoes, heard explosions, and watched their targets sail away out of range. Most COs believed that their torpedoes were running deeper than their preset depths, but their seniors placed their failures on poor marksmanship. Adm. Charles Lockwood, Commander, Submarine Force, U.S. Pacific Fleet, who had a long history as an undersea warrior, listened to the complaints of his submarine skippers concerning the faulty torpedoes and tried to get the Bureau of Ordnance to conduct performance tests in order to ascertain the problem. Lockwood was in the unenviable position of having to praise some of his best submarine skippers for their success in sinking Japanese shipping while at the same time trying to condemn the erratic performance of the torpedoes. The experts at headquarters, including Adm. Ernest King, who was instrumental in developing the Mark 14 torpedo when assigned to the Bureau of Ordnance, defended the mechanics of the torpedoes and blamed the marksmen. Left with little recourse in the matter, Lockwood ordered his own tests.

The USS *Skipjack* (SS-188) had just returned from patrol, and under the supervision of the squadron commander a target net was anchored in a deep water harbor where *Skipjack* got into position and fired three torpedoes. The first two torpedoes were set to run at ten feet. They tore holes in the net at twenty-five and eighteen feet. The third torpedo was set to run on the surface. It bounced off the bottom at sixty-five feet and went through the net at eleven feet. Adm. Lockwood then ordered the USS *Saury* (SS-189) to fire five torpedoes at the net. Those five fish produced similar results. The Bureau of Ordnance rejected the test results based on patrol records of returning submarines that clearly indicated that not all torpedoes failed to detonate and not all ran deep. In the face of the evidence, however, Adm. King relented, and Lockwood's test results were finally accepted. Eight months after the war started, the Bureau of Ordnance finally admitted the Mark 14 ran deeper than it should have. However, bigger problems were soon found with the torpedoes.

In July 1943, on her second war patrol, USS *Tinosa* (SS-283) singled out an enemy tanker in a convoy and made her first attack from approximately 5,000 yards. A spread of


U.S. Navy photo

The torpedo room of a World War II submarine.

four torpedoes was fired and all four exploded prematurely. *Tinosa*'s skipper, Lt. Cmdr. L.R. Daspit, made a second approach on the same target a few hours later and closed to within 2,000 yards. Another spread of four torpedoes yielded the same result as the first attack. Closing to within less than 1,000 yards on the tanker, which was now dead in the water, Daspit fired torpedo after torpedo, watched the wake of each one track right to the target, heard the "thud" that indicated that the torpedo had hit its mark, and yet the target was unaffected by the onslaught. All in all, Daspit fired fifteen torpedoes at the Japanese tanker, and only one exploded, causing minimal damage. The baffled CO decided to keep his remaining torpedo and bring it back to the Pearl Harbor weaponfacility for testing.

On her third war patrol, *Tinosa* tracked another Japanese tanker that was reported damaged after it had taken three hits from USS *Steelhead* (SS-280). It took thirteen more torpedoes from *Tinosa* before the "Obstinate Maru" was finally sunk.

Tinosa's fourth war patrol was notable for a different kind of torpedo problem, one that required both innovation and individual courage to resolve. Following a depth charge attack by a Japanese destroyer, *Tinosa* was unable to close the outer door on one of its torpedo tubes. When it was safe for the boat to surface, two officers, Lt. C.E. Bell, Jr. and Ens. K.R. Van Gorder, dove over the side and discovered that a torpedo was only partially ejected from the tube. Working without benefit of SCUBA equipment, and in enemy waters, they disabled the arming mechanism to prevent accidental detonation, allowing *Tinosa* to eject the torpedo safely.

When similar problems with torpedoes were reported by other submarines returning from patrol, the Bureau of Ordnance once again refused to admit that there were any faults with the weapons and blamed the skippers and their crews for not preparing and firing the torpedoes in the proper manner. Independent testing on the lone torpedo that *Tinosa* saved from her frustrating second patrol proved otherwise. That torpedo was fired at a cliff face in Oahu to determine any possible problem, and after being recovered by a diver and disassembled at the repair facility, it was discovered that the firing pin failed to hit the primer hard enough and actually crushed on impact when the torpedo hit the target at a zero angle. More tests on other torpedoes confirmed the problem as a faulty exploder mechanism.

Overcoming torpedo and other challenges, submarine skippers gradually abandoned pre-war, theory-based tactics and adapted to the real combat scenarios presented by the enemy. Long-standing doctrine required that an attacking submarine was to stay submerged and not be seen. The first pair of warriors to use a new combat technique was the team of Dudley "Mush" Morton and his executive officer, Dick O'Kane, who made the USS *Wahoo* (SS-238) a symbol of American might at a time when those on the home front badly needed heroes. Morton, like many submarine skippers who followed him, rejected the doctrine of "up by night and down by day" because in his view the enemy was never looking for a submarine on the surface. He defied the conventional wisdom of prosecuting torpedo attacks while submerged and allowed his XO to track the target and compute the firing solution while he maneuvered the ship on the surface. He was aggressive almost to the point of recklessness, but he was effective. During *Wahoo*'s greatest patrol, in the Spring of 1943 she attacked and sank nine Japanese ships in just ten days. The skipper of USS *Tang* (SS-306) who later bettered that mark was Morton's own former executive officer, Dick O'Kane.

Not all submarine patrols resulted in record enemy tonnage sunk or noteworthy tactical innovation. Adversity during the aftermath of submarine attacks created plenty of opportunities for ingenuity when faced with a ship's survival. The maiden war patrol of the USS *Plunger* (SS-179) resulted in the first depth-charging sustained by a Pacific Fleet submarine. While evading an enemy destroyer, *Plunger* was subjected to a pounding from 24 depth charges. The attack taught submariners that Japanese underwater listening equipment, at least at the beginning of the war, was equal to contemporary American technology.

The depth charge was the favored anti-submarine weapon of the Japanese navy throughout the war, but most American submarines were able to avoid catastrophic damage. The Japanese navy used small, 75-pound charges set to detonate between 100 and 150 feet. *Plunger*'s CO reported that his ship was able to escape the counter-attack by diving to 300 feet and operating mechanical equipment at reduced noise levels. Eventually, the Japanese increased the amount of TNT used in their depth charges to 300 pounds and learned to set them to explode deeper during their attacks on enemy submarines. The latter tactics improvement for Japan came courtesy of U.S. Congressman Andrew Jackson May, a member of the House Military Affairs Committee, who during a press conference told reporters that the Japanese claims of the number of U.S. submarines sunk were greatly exaggerated because they set their depth charges to explode at too

shallow a depth. The breach of security outraged Adm. Lockwood, who later stated, "I consider that indiscretion cost us ten submarines and 800 officers and men." Shortly after that press conference, USS *Puffer* (SS-268) was subjected to a 38-hour depth charge pounding at depths up to 500 feet by a Japanese sub-chaser.

As the war progressed in the Pacific, American submarines sank so many Japanese merchant ships—reducing the number of shipping targets—that they were forced to shift their attention to boarding and investigating smaller local watercraft, destroying mines, and harassing the enemy with shore bombardments. Some submarines, like USS *Bluegill* (SS-242) and USS *Barb* (SS-220), went the extra distance and took the initiative to attack the Japanese on land.

Submarines were the best "secret weapon" in the Allied arsenal, often inflicting damage on the enemy that was thought to be accomplished by noiseless aircraft, rockets or commando raids. They supplied guerrillas with arms, ammunition, money, food, medicine, and radio equipment and rendezvoused with commandos and coast watchers who gathered critical information for the inevitable invasion and reoccupation of the Philippines. The Japanese had some idea that American submarines were working in the general area of the islands, but they were unaware of the vast amount of aid those boats provided to the guerrillas.

The *Bluegill* used its idle time while assigned to lifeguard duty to attack and invade Pratas Island, located 150 miles off the Chinese coast. The island served as a radio and meteorological station for the Japanese after the Allies recaptured the Philippines in 1944. Several members of *Bluegill*'s crew armed with machine guns and cutlasses, along with two commandos from the Australian Z-Force who were embarked on the submarine, stormed ashore. The *Bluegill* commandoes found a makeshift village with a pump-house, a radio shack, and a meteorological laboratory as its principal buildings. The buildings were all constructed of concrete and evidently fairly sturdy. Two wooden guns and two stuffed soldiers were guarding the clearing. Fresh fruit and vegetables indicated that the island had been evacuated a few days earlier, so the "Pirates of Pratas" met no enemy resistance during their invasion. The radio towers were destroyed, and the meteorological facility was set ablaze. The buildings were then blown up, and the fuel depot set on fire. Before leaving, the crew of the submarine hoisted the American flag over the island in an appropriate ceremony and renamed it "Bluegill Island."

Arguably, the best of the wartime innovators was the CO of USS *Barb* (SS-220), Lt. Eugene Fluckey. *Barb* was no different than any other submarine that fought in the Pacific theater, but the ship's commanding officer certainly was. Fluckey was the first skipper to utilize his submarine like a motor torpedo boat, taking the fight to the enemy rather than waiting for the enemy to come to him. Under his command, *Barb* sank 34 Japanese merchant ships and several warships.

After completing a refit in Pearl Harbor in late 1944, *Barb* returned to the Western Pacific to continue terrorizing the Japanese merchant fleet. While in Hawaii, the innovative Fluckey had the shipyard equip his submarine with a portable rocket launcher. Waiting for merchant targets to wander into the *Barb*'s patrol area was not going to be a problem anymore. Fluckey intended to attack ships at anchor in Japanese harbors. The installation of the rocket launcher enabled the submarine to circumvent Japanese coastal defenses and made it a perfect platform to attack the enemy where they least expected.

When the *Barb* arrived at its assigned patrol area in La Perouse Strait, near the Japanese island of Hokkaido, it found a severe shortage of shipping targets. The submarine patrolled the shore line of Karafuto Island, where the crew noticed a much-traveled railway system was transporting Japanese troops and equipment on a regular schedule. Fluckey and his crew went to work on a plan to blow up the train. Eight volunteers were chosen for the mission in a ship-wide lottery. Those who won were offered as much as $200 to sell their billets. Saboteurs armed with hundreds of pounds of high-explosives and several makeshift contact exploders were loaded into two rubber boats for the assault. The landing party traveled almost a mile into Japanese territory, where they planted the explosives on the tracks. Several trains passed them before their work was completed, forcing them to hide in the bushes until it was safe to proceed again. After the charges were placed and the circuits were connected, the team headed back to *Barb,* where they witnessed a tremendous explosion and the destruction of the sixteen-car train.

Not content with "sinking" a train, Fluckey took *Barb* to a small island in the Sea of Okhotsk where the Japanese Government maintained a seal rookery. Fluckey planned to capture and occupy the island, but his preliminary periscope survey determined that it was well garrisoned and protected by numerous machinegun emplacements, one 3-inch field piece and several concrete pillboxes. With his eight-man commando team unable to overcome the Japanese defenses, Fluckey ordered a rocket attack. For the first time in U.S. submarine history, the order, "MAN BATTLESTATIONS ROCKETS," was made prior to *Barb*'s attack. Three salvos—of 12 rockets each—were fired at the island. The damage report verified the destruction of the rookery and the destruction of a nearby fish-processing factory. *Barb*'s crew received more medals for its wartime accomplishments than that of any other U.S. submarine, culminating with the Medal of Honor for Cmdr. Fluckey.

One of the most important strategic values of America's Submarine Force had nothing

to do with commerce raiding, underwater warfare, or special operations. Because the Japanese could never be sure that a submarine was not operating off their coasts, they had to maintain antisubmarine measures at all times. Early in the war, *Life* magazine published an article about USS *Guardfish* (SS-217) that claimed the submarine had penetrated so far into the Sea of Japan that the crew was able to watch a horserace that took place on the island of Honshu. The story was blown out of context and became more embellished at every retelling, but since an American magazine had reported it, it was obvious to the Japanese that no city was safe from a possible submarine attack, and anti-submarine measures were strengthened throughout the empire. Any troops or enemy resources that were diverted in defense of the Japanese homeland against phantom submarines were unavailable for use against the Allies in other areas.

Submarines were the best "secret weapon" in the Allied arsenal, often inflicting damage on the enemy that was thought to be accomplished by noiseless aircraft, rockets, or commando raids. They supplied guerrillas with arms, ammunition, money, food, medicine, and radio equipment. They rendezvoused with commandos and coast watchers who gathered critical information for the inevitable invasion and reoccupation of the Philippines. The Japanese had some idea that American submarines were working in the general area of the islands, but they were unaware of the vast amount of aid those boats provided to the guerrillas.

As most of the Japanese merchant fleet was being sent to the bottom of the ocean, Japanese troops in the Philippines were forced to get more and more of their food from local farmers. Making matters worse for garrison commanders was a history of Japanese abuse, brutalization, and oppression directed toward the local population, which made it impossible for the Japanese to meet their unexpectedly increased food needs by appealing to the sympathies of Filipino farmers. Faced with possible starvation, the Japanese high command on the Philippines desperately turned to Jose Laurel, the president of the puppet regime known as the "Philippine Republic," to encourage locals to cooperate with the Japanese. Laurel also urged the Philippine guerrillas to surrender by telling them that the Japanese fleet was so powerful that it would prevent the Americans from landing any kind of supplies or troops on Philippine soil. In response to Laurel's plea, one of the guerrilla leaders sent the Philippine president four Delicious apples, a variety that did not grow in Japan or the Philippines. The obvious intent was to let Laurel know that American submarines were already regular visitors to the Philippine Islands.

Indeed, the ships and men of the Silent Service were the first American naval assets to take the fight to the enemy, the force most responsible for the destruction of the Japanese merchant fleet and economy — crippling its ability to resupply Japan's armies — and the most versatile weapon in the Arsenal of Democracy. Through initiative, teamwork, leadership, and ingenuity the submariners of World War II built the foundation for future special warfare roles and established many of the traditions of our modern Submarine Force.

While today's submarine skippers face different challenges than the World War II fraternity, they are just as capable of carrying out their missions and just as proud of their service. What has to be remembered is that today's specialized undersea warfare capabilities were made possible by the efforts of our World War II veterans. They were sailors who seized the initiative and applied ingenious solutions to overcome technological or physical shortcomings. World War II saw the last of the old species of land and naval warfare, in which the fate of nations hung upon the ability of a few fearless warriors to rise above the disruption of mind and terror of painful annihilation by drowning, suffocation, burning, or scalding and do their duty in spite of it all. But their stories have become legend on a par with the Knights of the Round Table, the defeat of the Spanish Armada, and the Battle of Trafalgar. As long as ships put out to sea, and new sailors pick up the torches of the old, the American submariners of World War II will be remembered, and their legacy will help a new generation of submariners to reach new heights by standing on the shoulders of giants.

(Left) USS *Barb* (SS-220) in May 1945 off of San Francisco just before she departed for Pearl Harbor and from there on her legendary last war patrol. *(Right)* Sailors from *Barb* pose with their battle flag.

Mr. Rean is a retired Chief Warrant Officer 3. He is currently a professor of history at Franklin Pierce University in Rindge, N.H.

Submariner Receives Military Citizen of the Year Award

by Kevin Copeland, Commander, Submarine Force Public Affairs

(Left) Petty Officer 1st Class Rodney E. Buse shares his selection as the 54th recipient of the Samuel T. Northern Military Citizen of the Year (MCOY) with his wife, Nicole, and Capt. John Carter, the strategic forces, nuclear weapons and force protection director for Commander, Submarine Force (SUBFOR). *(Right)* Petty Officer 1st Class Buse delivers a thank-you speech after being selected as the 54th MCOY. He was formally recognized at the annual MCOY luncheon sponsored by Hampton Roads Chamber of Commerce and held in Norfolk, Va. The award is given annually by the Hampton Roads Chamber of Commerce to recognize the military citizen who has made the most impactful contribution in the area of community service.

Petty Officer 1st Class Rodney E. Buse was honored as the 54th recipient of the Samuel T. Northern Military Citizen of the Year (MCOY). The award is given annually by the Hampton Roads Chamber of Commerce to recognize the military citizen who has made the most impactful contribution in the area of community service. Buse was formally recognized at the annual MCOY luncheon sponsored by Hampton Roads Chamber of Commerce and held in Norfolk, Va.

"I was floored, because I really didn't think I had a chance," said Buse, the force protection assistant and staff anti-terrorism officer at Commander, Submarine Force (SUBFOR) Headquarters in Norfolk. "All the other nominees had done so much for the community, so being singled out and recognized is very humbling."

The honor is the highest award bestowed by the Hampton Roads Chamber of Commerce on the local military. Buse, a 36-year-old Terre Haute, Ind., native, was selected from among 17 nominees from U.S. Air Force, U.S. Coast Guard, U.S. Marine Corps, and U.S. Navy commands in the Hampton Roads area. He was recognized for his charitable work with the BMX for Christ Ministries, the Bethany Christian Services, the American Diabetes Association, and the Chesapeake Bay Foundation.

But primarily it was his work in the BMX for Christ Ministries that he believes may have put him over the top.

"I'm not really sure what was the key factor in my selection," said Buse. "All I can guess at this point is that it was the idea of BMX for Christ and how we're helping kids in an unconventional format. When people think about sports programs, the first ones that come to mind are football, basketball, baseball, and soccer, not BMX racing. I think we have forgotten that BMX bicycle racing is an Olympic sport, and an American-born sport."

Buse is the founder and director of the BMX for Christ Ministries. The non-profit ministry is organized to provide bikes, safety gear, and licensing and racing fees for less fortunate children and teens — enabling them to take part in the sport. Through the ministries' partnership with Bethany Christian Services, they help promote older child and special needs adoptions within the BMX racing community.

There are more than 500,000 children in foster care in the U.S. alone, with 120,000 of them eligible for adoption. However, less than 60,000 of those eligible for adoption are placed in forever families. As the administrator of BMX for Christ Ministries, Buse's fundraising activities and liaisons with sponsors and the Department of Social Services are able to make some of these children's dreams come true.

"My hope is that the attention received from my selection will greatly improve our efforts with the ministries during the 2010 season," said Buse. "There are a lot more children and teens we'd like to help, but with our budget constraints it is difficult. We're a completely volunteer program, and there have been a few times that I've purchased bikes and gear out of my own pocket to make things happen for a kid. I don't like telling kids no because of monetary issues."

Buse's positive and proactive approach in administrating his organization, and his diligence in helping it achieve its mission, comes naturally. His father was a maintenance supervisor in the Central Indiana coal mines, and his mother was the CEO of the Terre Haute (Vigo County) chapters of Big Brother/Big Sister, Court Appointed Special Advocates (CASA) for children, and the Young Women's Christian Association (YWCA). Also, during his childhood years, he grew up in a household with one biological sister, three foster children, and 27 foreign exchange students.

"Having gone through that experience, I really understand the plight of the kids I'm working with," said Buse. "It's funny, though, when I tell people that I have more than 30 brothers and sisters."

After graduating from Terre Haute South Vigo High School in

1992, he enrolled at Indiana State University. His matriculation there didn't last long.

"I realized that I needed some serious structure in my life to make it, and the Navy offered that discipline," said Buse. "When I went to the military processing center, I was being offered some occupations that sounded boring. Then he mentioned submarines, and I became captivated by the idea of doing something that everyone else wasn't doing. As I was getting ready to graduate from boot camp, I began to understand the significance and meaning of serving my country."

After graduation, Buse received his submarine school and occupational (machinist's mate) training in Groton, Conn. Since then, he has served on the fast attack submarines USS *Asheville* (SSN-758), homeported in San Diego, Calif.; USS *Key West* (SSN-722), homeported in Pearl Harbor, Hawaii; USS *Albany* (SSN-753), homeported in Norfolk, Va.; and USS *Minneapolis-St. Paul*, also homeported in Norfolk, Va. In addition, he has served on the submarine tender USS *Emory S. Land* (AS-39), homeported in La Maddalena, Italy, and at Naval Medicine in Pearl Harbor, Hawaii.

Buse's professional and civic accomplishment has been appreciated by all on the SUBFOR staff, but a little more by his immediate supervisor.

"Petty Officer Buse's selection as the 2009 Military Citizen of the Year is truly an inspiring experience for me and the Submarine Force staff," said Capt. John Carter, strategic forces, nuclear weapons and force protection director for SUBFOR. "His selfless contributions to his community should remind all of us that supporting our local community is vital to the fabric of our society."

"It strengthens our families and teaches our children civility, fellowship, and humanity. It reinforces the importance of the strong and committed bond between the military and the communities in which we reside. His contributions to this partnership exemplify a standard all Americans should strive for."

While appreciating the accolades that have come from his chain-of-command, Buse is more appreciative of the support his chain-of-command has given him.

"There have been times where appointments or meeting with agencies were scheduled during the workday," said Buse. "My chain-of-command always supported me, and for that I am most grateful. I am hoping that their support in helping me get the MCOY will also help me make chief petty officer and further my Navy career."

CHANGES OF COMMAND

COMSUBGRU 9
Rear Admiral James F. Caldwell relieved
Rear Admiral Timothy M. Giardina

NAVSUBTRACENPAC
Capt. Michael Ryan relieved
Capt. Frederick Capria

NAVAL SUBMARINE BASE NEW LONDON
Capt. Marc Denno relieved
Capt. Mark Ginda

COMSUBRON 1
Capt. Stanley Robertson relieved
Capt. Lee Hankins

TRIDENT TRAINING FACILITY BANGOR
Capt. David Solms relieved
Capt. Daniel Prince

COMSUBRON 3
Capt. Daryl L. Caudle relieved
Capt. Edward L. Takesuye

DEEP SUBMERGENCE UNIT
Cmdr. David Lemly relieved
Cmdr. Jay Spencer

USS Jimmy Carter (SSN-23)
Cmdr. Brian L. Davies relieved
Cmdr. David A. Honabach

USS Frank Cable (AS-40)
Capt. Thomas P. Stanley relieved
Capt. Patrick J. Scanlon

USS Houston (SSN-713)
Cmdr. David G. Schappert relieved
Cmdr. Michael D. Lewis
USS Chicago (SSN-721)
Cmdr. Jeffrey L. Cima relieved
Cmdr. Rick J. Stoner

USS Helena (SSN-725)
Cmdr. Paul Dinius relieved
Cmdr. Daniel Brunk

USS Michigan (SSGN-727) (B)
Capt. Charles J. Logan relieved
Capt. Dietrich Kuhlmann

USS Alabama (SSBN-731) (B)
Cmdr. Christopher Kline relieved
Capt. Todd Massidda

USS Pennsylvania (SSBN-735)
Cmdr. Theodore Schroeder relieved
Capt. Bradford S. Neff

USS Maine (SSBN-741) (B)
Cmdr. Mark Schmall relieved
Cmdr. John V. Tolliver

USS Asheville (SSN-758)
Cmdr. Gerald Miranda relieved
Cmdr. Broderick Berkhout

USS Greeneville (SSN-772)
Cmdr. Anthony Carullo relieved
Cmdr. Alan Dorrbecker

USS Texas (SSN-775)
Cmdr. Robert A. Roncska relieved
Cmdr. James L. Gray

QUALIFIED FOR COMMAND

Lt. Cmdr. Paul Acquavella
COMSUBRON 3

Lt. Cmdr. Justin Anderson
COMSUBRON 17
Lt. Cmdr. Steven Faulk
COMSUBRON 7

Lt. Steven Grossman
COMSUBDEVRON 5

Lt. Daniel Jones
USS Bremerton (SSN-698)

Lt. Cmdr. David Kaiser
COMPACFLt. NPEB

Lt. Cmdr. Neil LaPointe
COMSUBRON 19

Lt. Cmdr. Joseph Lyon
USS Pasadena (SSN-752)

Lt. Cmdr. Matthew Mazat
USS Ohio (SSGN-726)(B)

Lt. Cmdr. Deryk Petersen
COMSUBDEVRON 5

Lt. Cmdr. Martin Sprague
USS Pennsylvania (SSBN-735)(G)

Lt. Cmdr. Theodore Stanton
USS Michigan (SSBN-727)(B)

Lt. Cmdr. Glenn Washington
USS Maine (SSBN-741)(G)

Lt. Cmdr. Brian Young
COMSUBRON 17

QUALIFIED NUCLEAR ENGINEER OFFICER

Lt. Scott W. Apple
USS Florida (SSGN-728)(G)

Lt. John Applebaum
USS Jacksonville (SSN-699)
Lt. Kerry N. Bosche
USS Wyoming (SSBN-742)(G)

Lt. Tom Buckles
USS Wyoming (SSBN-742)(G)

Lt. Joel Holwitt
USS Houston (SSN-713)

Lt. Ethan Jaworski
USS Henry M. Jackson (SSBN-730)(B)

Lt. Douglas Kondrack
USS Michigan (SSGN-727)(G)

Lt. William R. Levis
USS Florida (SSGN-728)(G)

Lt. Jason Lovegren
USS Nebraska (SSBN-739)(B)

Lt. Nathan Matherly
USS Henry M. Jackson (SSBN-730)(B)

Lt. Isaac Pelt
USS Asheville (SSN-758)

Lt. Anthony Peters
USS Pennsylvania (SSBN-735)(B)

Lt. Robert Ryan
USS Jacksonville (SSN-699)

Lt. Johannes J. Smith
USS Florida (SSGN-728)(B)

Lt. Thaddeus Spann
USS Seawolf (SSN-21)

Lt. Max Tubbesing
USS Columbia (SSN-771)

Lt.j.g. Matthew Ahlertuss
USS Greeneville (SSN-772)
Lt.j.g. Jeremy R. Alley

Historical Artifacts Presented to USS *Texas* (SSN-775)


Photo by Petty Officer 1st Class Steven Myers

U.S. Representative John Culberson of Texas and USS *Texas* (SSN-775) commanding officer, Cmdr. Robert Ronscka, hold a case containing the Lone Star military hat insignia and other historical documents of Thomas Harper, a Master at Arms for the Marine Corps of the Republic of Texas.

USS Georgia (SSGN-729)(B)

Lt.j.g. Jason Anthes
USS Louisiana (SSBN 743)(B)

Lt.j.g. Jemar Ballesteros
USS Albuquerque (SSN-706)

Lt.j.g. Jeffrey R. Bernhardt
USS Georgia (SSGN-729)(G)

Lt.j.g. Jeffrey N. Blackard
USS West Virginia (SSBN-736)(G)

Lt.j.g. Kyle Brizan
USS Buffalo (SSN-715)

Lt.j.g. Jesse Burson
USS Maine (SSBN-741)(G)

Lt.j.g. John Bui
USS Michigan (SSBN-727)(B)

Lt.j.g. Mark W. Cartwright
USS Georgia (SSGN-739)(B)

Lt.j.g. Justin Clark
USS Alabama (SSBN-731)(G)

Lt.j.g. Jeremy Dawson
USS Kentucky (SSBN-737)(B)

Lt.j.g. Jason Downs
USS Louisville (SSN-724)

Lt.j.g. Zachary Elliott
USS Louisville (SSN-724)

Lt.j.g. Derek Fletcher
USS Tucson (SSN-770)

Lt.j.g. Kenneth Frauenthal
USS Nebraska (SSBN-739)(G)
Lt.j.g. Jeremy Garcia

USS West Virginia (SSBN-736)(B)

Lt.j.g. Kyle Gish
USS Asheville (SSN-758)

Lt.j.g. Matthew Gore
USS Helena (SSN-725)

Lt.j.g. Daniel Guerrant
USS Maine (SSBN-741)(G)

Lt.j.g. Karl Hassanfratz
USS Pasadena (SSN-752)

Lt.j.g. David Herbert
USS San Francisco (SSN-711)

Lt.j.g. Jarred Herman
USS Asheville (SSN-758)

Lt.j.g. Seth T. Hooper
USS Florida (SSGN-728)(B)

Lt.j.g. William Hotchkiss
USS Bremerton (SSN-698)

Lt.j.g. Edward Houser
USS Pennsylvania (SSBN-735)(G)

Lt.j.g. Benjamin C. Huffman
USS Wyoming (SSBN-742)(B)

Lt.j.g. Steven Hyman
USS Key West (SSN-722)

Lt.j.g. Jeremy R. Janney
USS Georgia (SSGN-729)(G)

Lt.j.g. David Johnsen
USS Michigan (SSGN-727)(G)

Lt.j.g. Patrick Kelly
USS La Jolla (SSN 701)
Lt.j.g. Kenneth Kirkwood

USS Pasadena (SSN-752)

Lt.j.g. Davy Lee
USS Buffalo (SSN-715)

Lt.j.g. Joseph Lopiccolo
USS Louisville (SSN-724)

Lt.j.g. Ross Lundgren
USS Pennsylvania (SSBN-735)(G)

Lt.j.g. John D. Malone
USS Rhode Island (SSBN-740)(B)

Lt.j.g. Joseph L. Martin
USS Alaska (SSBN-732)(B)

Lt.j.g. Brent Mazurek
USS La Jolla (SSN-701)

Lt.j.g. Matthew McCay
USS Kentucky (SSBN-737)(B)

Lt.j.g. Michael McCormick
USS Hawaii (SSN-776)

Lt.j.g. Theodious McKinnon
USS Nevada (SSBN-733)(B)

Lt.j.g. Keith Miller
USS Alabama (SSBN-731)(G)

Lt.j.g. Sean Mahoney
USS Ohio (SSGN-726)(G)

Lt.j.g. Erik Molina
USS Topeka (SSN-754)

Lt.j.g. Luis Morales-Benitez
USS Santa Fe (SSN-763)

Lt.j.g. Ian Moulton
USS Hampton (SSN-767)
Lt.j.g. Michael Mowry

USS Columbus (SSN-762)

Lt.j.g. Patrick Murphy
USS Cheyenne (SSN-773)

Lt.j.g. Eric Olson
USS Pennsylvania (SSBN-735)(B)

Lt.j.g. Robert Osborne
USS Helena (SSN-725)

Lt.j.g. Jarrod Ozereko
USS Nevada (SSBN-733)(B)

Lt.j.g. Joshua Peters
USS Nebraska (SSBN-739)(G)

Lt.j.g. Tyrone Pham
USS Alabama (SSBN-731)(B)

Lt.j.g. Andrew Pyle
USS Topeka (SSN-754)

Lt.j.g. Jeffrey Ransom
USS Bremerton (SSN-698)

Lt.j.g. Austin Rasbach
USS La Jolla (SSN-701)

Lt.j.g. Christian Rivera
USS Jefferson City (SSN-759)

Lt.j.g. Michael Rodriguez
USS Chicago (SSN-721)

Lt.j.g. Chad Rorstrom
USS Columbia (SSN-771)

Lt.j.g. Justin Ross
USS West Virginia (SSBN-736)(B)

Lt.j.g. Jonathan Scobo
USS Ohio (SSGN-726)(G)
Lt.j.g. Jack Shis

USS Los Angeles (SSN-688)

Lt.j.g. Christopher R. Smith
USS Georgia (SSGN-729)(G)

Lt.j.g. Eric S. Spurling
USS Maryland (SSBN-738)(G)

Lt.j.g. Timothy Stevens
USS Louisiana (SSBN-743)(B)

Lt.j.g. Ryan A. Stewart
USS Florida (SSGN-728)(B)

Lt.j.g. Robert Syre
USS Santa Fe (SSN-763)

Lt.j.g. Kyle Thayer
USS Asheville (SSN-758)

Lt.j.g. Brandon Thomas
USS Jacksonville (SSN-699)

Lt.j.g. David Tiffin
USS Hampton (SSN-767)

Lt.j.g. Mark Truckenbrod
USS Louisiana (SSBN-743)(G)

Lt.j.g. Matthew Uebel
USS Olympia (SSN-717)

Lt.j.g. Arprell Walker
USS Louisville (SSN-724)

Lt.j.g. Joshua Wall
USS Alaska (SSBN-732)(B)

Lt.j.g. Raymond Wiggin
USS Kentucky (SSBN-737)(G)

Lt.j.g. Matthew D. Williams
USS Alaska (SSBN-732)(G)

Lt.j.g. Joel Winbigler
USS Jefferson City (SSN-749)

UNRESTRICTED LINE

OFFICER QUALIFIED FOR COMMAND OF SUBMARINES

Lt. Cmdr. David P. Brooks
COMSUBRON 2

Lt. Cmdr. Michael J. Daigle
COMSUBRON 2

Lt. Cmdr. Ravi M. Desai
COMSUBRON 2

Lt. Cmdr. Douglas A. Dreese
COMSUBRON 2

Lt. Cmdr. Eric P. Higgs
COMSUBGRU 2

Lt. Cmdr. Daniel J. Lombardo
COMSUBRON 8

Lt. Daniel A. Patrick
COMSUBRON 6

Lt. Ryan Smith
COMSUBRON 2

LINE OFFICER QUALIFIED IN SUBMARINES

Lt. Matthew A. Beasley
USS Miami (SSN-755)

Lt. Henry Hargrove
USS Nevada (SSBN-733)(B)

Lt. Jarrod Ozereko
USS Nevada (SSBN-733)(B)

Lt.j.g. Raymond Ahaus
USS Key West (SSN-722)

Lt.j.g. Bradley Blanchette
USS Connecticut (SSN-22)

Lt.j.g. Taylor Bond
USS Henry M. Jackson (SSBN-730)(B)

COMSUBFOR Welcomes First Force Chaplain in 15 Years

by Petty Officer 2nd Class Xander Gamble

Photo by Petty Officer 2nd Class Xander Gamble

Cmdr. Don Troast talks to a crewmember of the *Los Angeles*-class attack submarine USS *Montpelier* (SSN-765).

Cmdr. Don Troast arrived at Commander, Submarine Force (SUBFOR) earlier this month to assume his duties as the first force chaplain in 15 years.

"Because of my personal experience with the Submarine Force," said Troast, "I think I have a good handle on what religious support requirements for the Submarine Force are."

Troast previously served the Submarine Force as the squadron chaplain for Submarine Development Squadron 12 from 1994 to 1997. He also served as command chaplain for the USS *Harry S. Truman* (CVN-75) Strike Group and various Marine Corps units deploying to the Far East and Afghanistan.

Troast attended Hope College in Holland, Mich. where he majored in biology and physical education with the intention of being a high school teacher and coach. He then received a call to ministry and went to the theological school at Drew University in Madison, N.J., graduating in 1978. Ordained by the United Church of Christ, he served churches in the Boston area for 13 years and joined the Navy Chaplain Corps in 1991.

"[Chaplains] exist because of the free exercise rights of religion granted by the First Amendment of the Constitution," said Troast, a native of Boston, Mass., "and I would be bold enough to say that if that phrase wasn't in there, we probably would not be in the military.

"Our primary function is to ensure the free exercise of religion rights of Sailors, Marines, Airmen, the military in general, and in my case, the Submarine Force, are met. Our Sailors, Marines, and Coast Guardsman go to places where they can't just go to their respective place of worship, so we bring it to them."

Troast, like every Navy chaplain, is required to facilitate the needs of every member's religious needs, regardless of their faith.

While working for Submarine Development Squadron 12, Troast worked with now-Adm. Kirk Donald and now-retired Vice Adm. Charles Munns. The submarines he worked with included the *Los Angeles*-class attack submarines USS *Miami* (SSN-755), USS *Augusta* (SSN-710), USS *Alexandria* (SSN-757), USS *San Juan* (SSN-751), USS *Philadelphia* (SSN690), and USS *Groton* (SSN-694), and he is an honorary plank-owner of the *Seawolf*-class attack submarine USS *Seawolf* (SSN-21).

Two of the first issues that Commander, Submarine Force Vice Adm. John J. Donnelly asked Troast to tackle are religious rites, especially during deployments, and family readiness. First, Troast is assessing religious accommodation requirements, and second, he will be communicating with the ombudsmen on family issues.

"As a person that can go anywhere, anytime within budget constraints," said Troast, "I can really get to know the force."

Lt.j.g. Mathew Braden
USS Alabama (SSBN-731)(B)

Lt.j.g. Mark Burchill
USS Alabama (SSBN-731)(G)

Lt.j.g. Travis J. Burden
USS Virginia (SSN-774)

Lt.j.g. Russell Canty
USS Alabama (SSBN-731)(B)

Lt.j.g. Joseph Campbell
USS Pennsylvania (SSBN-735)(G)

Lt.j.g. Chance Carter
USS Columbia (SSN-771)

Lt.j.g. Eric Carter
USS Henry M. Jackson (SSBN-730)(B)

Lt.j.g. Matthew Christensen
USS Ohio (SSGN-726)(B)

Lt.j.g. Jared Chenkin
USS Ohio (SSGN-726)(B)

Lt.j.g. Mitchell D. Clement
USS Providence (SSN-719)

Lt.j.g. Christopher Corey
USS La Jolla (SSN-701)

Lt.j.g. Sean P. Cronin
USS Annapolis (SSN-760)

Lt.j.g. Darren W. Cutler
USS Annapolis (SSN-760)

Lt.j.g. John Donovan III
USS Pennsylvania (SSBN-735)(G)
Lt.j.g. Thomas Dunbar
USS Buffalo (SSN-715)

Lt.j.g. Jason D. Epps
USS Oklahoma City (SSN-723)

Lt.j.g. Derek Ferguson
USS Nevada (SSBN-733)(B)

Lt.j.g. James George
USS Michigan (SSGN-727)(B)

Lt.j.g. Peter I. Golden
USS San Juan (SSN-751)

Lt.j.g. Thomas Gray
USS Alabama (SSBN-731)(B)

Lt.j.g. Kerry Grubb
USS Charlotte (SSN-766)

Lt.j.g. Justin Hamilton
USS Columbus (SSN-762)

Lt.j.g. Donald Harrington
USS Greeneville (SSN-772)

Lt.j.g. Arron Henrichsen
USS Henry M. Jackson (SSBN-730)(G)

Lt.j.g. Matthew Hezel
USS Nevada (SSBN-733)(B)

Lt.j.g. Christopher L. Hinson
USS Toledo (SSN-769)

Lt.j.g. David P. Hodapp
USS Newport News (SSN-750)

Lt.j.g. Jeremy Hollaway
USS Tucson (SSN-770)

Lt.j.g. Christopher Hoover
USS La Jolla (SSN-701)
Lt.j.g. Zachary Hope
USS Seawolf (SSN-21)

Lt.j.g. Joseph Huck
USS Greeneville (SSN-772)

Lt.j.g. Damiean Johnson
USS Houston (SSN-713)

Lt.j.g. Roy Johnston
USS Asheville (SSN-758)

Lt.j.g. Cal Kimes
USS Los Angeles (SSN-688)

Lt.j.g. Justin P. Kirkpatrick
USS Newport News (SSN-750)

Lt.j.g. Joseph Kraut
USS Kentucky (SSBN-737)(G)

Lt.j.g. David Legault
USS Michigan (SSGN-727)(G)

Lt.j.g. Nicholas Manzini
USS Charlotte (SSN-766)

Lt.j.g. Nathan Matherly
USS Henry M. Jackson (SSBN-730)(B)

Lt.j.g. Mark J. Matkovich
USS Pittsburgh (SSN-720)

Lt.j.g. Cullen Matthews
USS Michigan (SSGN-727)(G)

Lt.j.g. Noah McBurnett
USS Houston (SSN-713)

Lt.j.g. Gregory McCarthy
USS Olympia (SSN-717)

Lt.j.g. John McGinty
USS Pennsylvania (SSBN-735)(B)
Lt.j.g. Travis Miller
USS La Jolla (SSN-701)

Lt.j.g. Jacob Murray
USS Pennsylvania (SSBN-735)(G)

Lt.j.g. Damian Oslebo
USS Nevada (SSBN-733)(B)

Lt.j.g. Benjamin Parks
USS Bremerton (SSN-698)

Lt.j.g. Garrick Peiffer
USS Louisiana (SSBN-743)(B)

Lt.j.g. Richard Pell
USS Pennsylvania (SSBN-735)(B)

Lt.j.g. Brian Pennington
USS Jimmy Carter (SSN-23)

Lt.j.g. Andrew Potts
USS Chicago (SSN-721)

Lt.j.g. Austin Rasbach
USS La Jolla (SSN-701)

Lt.j.g. Brandon Rathke
USS Henry M. Jackson (SSBN-730)(G)

Lt.j.g. Nicklis E. Richardson
USS Scranton (SSN-756)

Lt.j.g. Christopher W. Rose
USS Philadelphia (SSN-690)

Lt.j.g. Steven Sanchez
USS Asheville (SSN-758)

Lt.j.g. Joseph W. Sammur
USS Virginia (SSN-774)

Lt.j.g. Jeremy B. Saria
USS Toledo (SSN-769)

Lt.j.g. Christopher Schuster
USS Louisiana (SSBN-743)(G)

Lt.j.g. Keith Skillin
USS Alabama (SSBN-731)(G)

Lt.j.g. Michael F. Smith
USS San Juan (SSN 751)

Lt.j.g. William Stange
USS Seawolf (SSN-21)

Lt.j.g. Justin Stepanchick
USS Ohio (SSGN-726)(B)

Lt.j.g. Gregory Storer
USS Albuquerque (SSN-706)

Lt.j.g. John W. Stuckey
USS Virginia (SSN-774)

Lt.j.g. Alexander Tafreshi
USS Jimmy Carter (SSN-23)

Lt.j.g. Michael S. Tobin
USS Providence (SSN-719)

Secretary of the Navy Visits Submarine Escape Trainer

Photo by Petty Officer 2nd Class Kevin O'Brien

Secretary of the Navy (SECNAV) the Honorable Ray Mabus tours the new submarine escape trainer and is briefed by Chief Warrant Officer Raymond Miller during a Sept. 23 visit to Submarine Base New London, Conn. The Naval Submarine School began to operate the trainer full-time on Nov. 10.

Lt.j.g. Christopher Turner
USS Olympia (SSN-717)

Lt.j.g. Joshua Turner
Michigan (SSGN-727)(G)

Lt.j.g. Robert Twitchell
USS Columbus (SSN-762)

Lt.j.g. Mark Truckenbrod
USS Louisiana (SSBN-743)(G)

Lt.j.g. Nicholaas Verhoeven
USS Bremerton (SSN-698)

Lt.j.g. John Walker
USS Asheville (SSN-758)

Lt.j.g. John Walsh
USS Louisiana (SSBN-743)(G)

Lt.j.g. Andrew Warner
USS Nebraska (SSBN-739)(G)

Lt.j.g. Grant Wanier
USS Kentucky (SSBN-737)(B)

Lt.j.g. Stephen Winchell
USS Charlotte (SSN-766)

Lt.j.g. Steven Yang
USS Nevada (SSBN-733)(B)

Ens. Michael Deboer
USS Ohio (SSGN-726)(G)

Ens. Joseph M. Stark
USS Providence (SSN-719)

LIMITED DUTY OFFICER QUALIFIED IN SUBMARINES

Lt. James Ratliff
USS Nebraska (SSBN-739)(B)

Lt.j.g. Travis Garland
USS Los Angeles (SSN 688)

Ens. James McCarty
USS Nevada (SSBN-733)(B)

SUPPLY OFFICER QUALIFIED IN SUBMARINES

Lt.j.g. Matthew Carroll
USS Asheville (SSN-758)

Lt.j.g. Benjamin E. Hixon
USS San Juan (SSN-751)

Ens. Eugene K. Ho
USS Springfield (SSN-761)

Lt.j.g. Luke Przysiecki
USS Pasadena (SSN 752)

Lt.j.g. Jonathan Richmond
USS Nevada (SSBN-733)(B)

Lt.j.g. Peter Rivera
USS Albuquerque(SSN-706)

Lt.j.g. Darron J. Stevenson
USS Pittsburgh (SSN-720)

Lt.j.g. David Stonecipher
USS Los Angeles (SSN-688)

USS Rhode Island (SSBN-740)(GOLD) Performs Rescue at Sea

by Submarine Group TEN Public Affairs

Five stranded Bahamian nationals were spotted and rescued by crewmembers of the *Ohio*-class, ballistic-missile submarine USS *Rhode Island* (SSBN 740)(G).

Senior Chief Petty Officer John "J.T." Renn, corpsman aboard USS *Rhode Island* (SSBN-740)(G), treats the five rescued men for dehydration.

The crew of USS *Rhode Island* (SSBN-740) (GOLD) rescued five people from a capsized boat Aug. 11.

At approximately 9 a.m., while transiting on the surface in the Atlantic Ocean, Lt. j.g. Brad Holbrook, the periscope operator on board *Rhode Island*, observed what seemed to be a distressed vessel.

Cmdr. Kevin Mooney, commanding officer of *Rhode Island*, ordered the submarine to turn around to investigate the sighting.

As the distance between the craft and submarine decreased, it became apparent that four men and a 14-year-old boy, were sitting atop the capsized fishing vessel. The five rescued boaters, who were from the Bahamas, were brought topside of *Rhode Island* and provided assistance until another vessel arrived to take the men ashore.

One of the men reported being adrift for four days at sea, and all were very grateful when they saw the submarine was turning around to rescue them.

The submarine's corpsman, Senior Chief Petty Officer John "J.T." Renn, treated the five men for dehydration. One man sustained a significant wound on his right leg, and Renn prepared it for further medical treatment ashore.

"There is only one choice when it comes to rendering assistance to vessels in distress," said Mooney. "I am glad that we were in the right place at the right time to help out these fellow mariners. I couldn't be more proud of the professionalism and performance displayed by my crew."

The rescued men joked with the submarine crew that no one would believe their story. As proof, Mooney gave each of the men a USS *Rhode Island* command coin as a memento of their rescue.

Submariner Awarded Bronze Star for Service in Iraq

by Commander, Submarine Group TEN Public Affairs

Bronze Star recipient Lieutenant Junior Grade Warren Bowman stands in front of the submarine where he served his first assignment, USS *George Bancroft* (SSBN-643).

When you hear of a submarine Sailor being awarded a Bronze Star, the images of World War II and submarine battles against the German and Japanese come to mind, not the current war in the deserts of the Middle East. With the demands the war is making on the armed forces, many submariners are choosing to leave their cool, quiet, underwater work centers and volunteer for individual augmentee (IA) assignments in Iraq and Afghanistan.

On September 17, in a ceremony at Naval Submarine Base Kings Bay, Ga., Lt. j.g. Warren Bowman was awarded a Bronze Star for his actions in Iraq. As the electronic warfare officer for Joint Counter-Radio-controlled improvised explosive device Electronic Warfare (CREW) Composite Squadron ONE, Bowman's assignment in Iraq, in the simplest terms, was to detect and suppress enemy radio controlled improvised explosive devices (IEDs) and save American lives.

"I am thankful for the privilege to serve with 3rd Battalion 7th Marines and 2nd Battalion 1st Marines," said Bowman "and thankful that everyone I was over there with came home safe."

Bowman, a native of Aiken, S.C., is the youngest of five children and the son of a submariner. He entered the Navy in July 1990. After recruit training in Great Lakes, Ill., Bowman reported to Basic Submarine School for training as a Radioman. His first duty assignment was on USS *George Bancroft* (SSBN-643)(Blue).

"My father definitely influenced my choice of the submarine service and convinced me to stay on active duty after my first enlistment," Bowman said.

Bowman's sea service includes four strategic deterrent patrols, three North Atlantic deployments and a Western Pacific deployment. His shore duties have included production recruiter and recruiter-in-charge for two medium recruiting stations, IT department leading chief petty officer for Navy Recruiting District Atlanta. After advancing to senior chief petty officer in 2004, he reported to Naval Submarine Support Command (NSSC) Pearl Harbor as the electronics material officer. During his tour in Hawaii, Bowman was selected for a commission as a submarine communications limited duty officer. His first officer assignment was at NSSC, Kings Bay, Ga. as the communications officer and informattion systems department head.

It was during his NSSC Kings Bay tour that Bowman accepted the individual augmentee assignment to Iraq.

"NSSC was great while I was deployed, they sent care packages — not only for me, but for the whole company," Bowman said. "MWR also provided amazing support."

Bowman was stationed at Camp Hit and provided support to two Marine battalions and a number of additional units temporarily stationed in his area of responsibility throughout Al Anbar province.

Al Ambar province had long been considered one of the most dangerous and resistant regions in Iraq. Only with the provincial government's cooperation with American military forces has life begun to return to normal. Even with the worst of the fighting over, people try to live and work with insurgent attacks taking place on a regular basis. Bowman describes the area as a place where time stands still.

"You can look through the wire and envision that you are in Biblical times, not much has changed. Still, people are the same everywhere. They want what we want, to feed their children and sleep in safety."

Bowman provided training, support, maintenance and upgrades to a $20.5-million inventory of 360 CREW systems and achieved a 100-percent system readiness rate for tactical vehicles with no interruption to combat operations. CREW systems are vehicle-mounted, multiband radio-frequency jammers designed to block enemy use of select radio frequencies and prevent the remote detonation of IEDs. IEDs are the number one source of U.S. and allied casualties in Iraq, according to the Department of Defense. Bowman routinely participated in mounted and dismounted combat patrols with his units to monitor equipment and operator performance. Each patrol came with the significant risk of hostile action.

"I feel so privileged to have worked with the Marines. Until you have gone out with them and get that perspective, you don't understand what they do. The most effective weapon is a well trained Marine with a goal," Bowman said. "Submariners are the best trained, educated and professional force, but we work in such a small microcosm, to use my skills this way was an eye opener."

Junior Officer Shore Duty in Washington, D.C.

By Lt. Adam Zaker

After passing the Engineer's Exam, I had to face the reality that the boat would one day leave without me, and I needed to find a new job. Energized, I perused the shore-duty slate for a job in Vail, Colo., as a snowboarding instructor. Unfortunately, that job was not on the slate. My disappointment was short-lived when I spotted the next best thing: a job where I could spend the majority of my time on the beach. I quickly moved this job to the top of my list and crossed my fingers that I would be picked from the inevitable horde of officers who would also make it their "number one."

A few months later, much to my surprise, I received orders for my number-one choice and started shopping for a kite-board. But a weird thing happened before I could join the kite-boarding circuit — I spent a fortuitous week in Washington, D.C. During that time, senior submarine leadership took the time to provide professional advice: "Adam, why would you pick this particular job for shore duty?" Weakly, I tried to explain the benefits of kite-boarding, SCUBA diving, and tanning on the beach. Although I didn't realize it at that moment, my submarine leadership knew what I wanted better than I did. A week later, I was offered a job working on the *Ohio*-class replacement effort in the Submarine Warfare Division (N87) at the Pentagon. I have come to realize that I couldn't have asked for better duty.

The benefits of duty in D.C. were quickly apparent. During my check-in interview, Rear Adm. Cecil Haney, the Director of Submarine Warfare, encouraged me to complete my master's degree in parallel with my work. For the D.C.-bound lieutenant, opportunities for higher education are plentiful. Like most of the lieutenants working in N87, I easily found a masters degree that I could complete during my time on shore duty. I chose the EMBA program from the Naval Post Graduate School. Similar to most MBA programs, this degree consists of two years of course work, but it is unique because it carries an emphasis on defense acquisition.

Although most shore-duty locations allow for higher education, none compares to D.C. when it comes to opportunities for art or history aficionados. Arriving in D.C., I was determined to see it all. After a year and a half, I have come to realize that it would take a few more years to even get started. Among the monuments, historical landmarks, battlefields and museums I have been able to see, one that stands out for me is the Civil War's Antietam battlefield, site of the bloodiest single day in America's history. To read about the battle that took place there is amazing, but it is truly staggering to actually stand on the battlefield itself. I encourage anyone visiting or living in the D.C. area to put it on the top of their list.

In addition to the rich history in the D.C. area, there are plenty of hiking trails, bike paths, and road races that are among the best in the Nation. For example, I joined six other officers from N87 to train for and compete in the Marine Corps Marathon this year. Finding the motivation to train for such an undertaking was made much easier not only by the support of six other guys, but also because, in a four-mile training run, we could leave the Pentagon, pass the Lincoln and Jefferson Memorials, and loop around the Washington Monument before making it back to work. The race itself was an awesome experience, as you can see by the smiles of me and Lt. Joe Petrucelli, another N87 junior officer who participated.

Currently, I work for Capt. David Kriete, one of several senior officers leading the effort to replace today's *Ohio*-class nuclear ballistic missile submarines. It is especially rewarding to see this requirements process from the inside; I am privileged to see how, years before the first of today's SSBNs retire, the Navy and Department of Defense are working toward an economically prudent replacement that will be survivable and viable in the 2030-2080 timeframe. The effort that is required — almost 17 years before this platform goes to sea — is truly staggering. The junior officers currently serving at sea who will be the first to take this platform underway as commanding officers should consider themselves lucky. This platform will continue the Navy's key role in strategic deterrence and provide stability in the world far into the future.

The very best part of working in the Submarine Warfare Division is the privilege of working with a wide variety of fellow submarine officers. In an office where there are as many post-major command officers as there are lieutenants, finding quality professional advice is easy. I am grateful that on many occasions, the captains in my office have taken the time to give me advice as I look toward returning to sea and beyond. The environment is truly like a wardroom at sea: from the random tasking by a lieutenant commander to a fellow lieutenant volunteering me to be Santa Claus at the next Christmas Party. The people in the submarine force are what keep me in the Navy, so despite everything D.C. has to offer, it is N87's version of the submarine wardroom environment that I love most about my job.

Photo courtesy of Friends of Albacore

USS *Albacore* (AGSS-569)

Portsmouth, N.H.

Two great innovations of the 1950s transformed submarines from what were essentially surface ships that could submerge when necessary into "true submersibles," more at home in the depths than on the surface. One innovation was nuclear propulsion. The other was the teardrop-shaped hull pioneered by *Albacore* (AGSS-569), now on permanent display at Albacore Park in Portsmouth, N.H.

Built at the Portsmouth Naval Shipyard, *Albacore* was commissioned in 1953. Vice Adm. Charles "Swede" Momsen, who led the effort to build her, cannily proposed that she serve primarily as an unarmed exercise target for antisubmarine hunter-killer groups. This helped overcome lack of interest in funding advanced hull design for its own sake. Since only the Bureau of Ships was involved in building an unarmed target, it also prevented other Navy organizations from piling on costly and distracting requirements.

Albacore's teardrop hull was only about two-thirds the length of a World War II fleet boat, and she had only a slender sail to house masts and antennae rather than a traditional conning tower. "Forget about surface performance," Momsen had told her designers. "Think only about submerged capability which will provide the utmost speed with minimum of power. When in doubt, think speed!" *Albacore* soon captured the underwater speed record. As late as 1966, more potent silver zinc batteries enabled her to recapture the record by briefly reaching 33 knots.

True to her motto, *praenuntius futuri* (forerunner of the future), *Albacore* continued to pioneer a wide variety of new submarine technologies for nearly two decades. Among other things, she conducted the first submarine test of a single, multipurpose mast housing several antennas, and she tested a single experimental periscope combining the functions of the thin attack scope and the large-aperture search scope. She introduced the fiberglass sonar dome and tested a breadboard version of the DIMUS (Digital MUltibeam Steering) sonar, forerunner of all modern sonars. She was even the first sub to use a towed array, albeit to measure near-field noise rather than detect other submarines.

Decommissioned in September 1972, *Albacore* languished for a decade at the Inactive Ship Facility in Philadelphia before Portsmouth civic leaders kicked off a two-year campaign to return her to her birthplace. *Albacore* was towed to the Portsmouth Naval Shipyard in April of 1984, but it took until May of 1985 to begin moving her to Albacore Park, a process that lasted six months and required dismantling a railroad bridge, cutting through a four-lane highway bridge, and building a system of locks to get her up on a concrete cradle on dry land. In May 2000, the American Society of Mechanical Engineers designated *Albacore* a historic mechanical engineering landmark.